American Machinist

[ISSUED WEEKLY]

The International Journal of the Machinery Industries

Volume ~~LIV~~ 64

January 1 to June 30, 1926

McGraw-Hill Publishing Co., Inc.
Tenth Avenue at 36th Street
New York

PUBLIC LIBRARY
DETROIT, MICH.

American Machinist

Index to Volume LIV

January 1 to June 30, 1926

EXPLANATORY NOTE

Illustrated articles are marked with an asterisk (*). New shop equipment as described in the department "Shop Equipment News" with a double dagger (‡). Cross references to a particular initial work may apply also to its derivatives. The cross references condense the matter and assist the reader but are not to be regarded as complete or conclusive. So if there were a reference from "Milling" to "Jigs and Fixtures," and if the searcher failed to find the required article under the latter topic, he should look through the "Milling" entries, or others that the subject might suggest, as he would have done had there been no cross reference. The plural of any given item may not necessarily follow the singular immediately, as the items are listed in alphabetical order. All articles written by any given author are listed directly under his name in the special authors' index which starts on page 14. Articles that are not credited to any author may be found under the heading "No author," listed under "N" in the Authors' Index.

Following is a list of the pages included in the several numbers of the volume by date and number:

Jan. 7,	1926—No. 1	1-38
Jan. 14,	1926—No. 2	39-78
Jan. 21,	1926—No. 3	79-142
Jan. 28,	1926—No. 4	143-182
Feb. 4,	1926—No. 5	183-222
Feb. 11,	1926—No. 6	223-260
Feb. 18,	1926—No. 7	261-298
Feb. 25,	1926—No. 8	299-340
Mar. 4,	1926—No. 9	341-380
Mar. 11,	1926—No. 10	381-420
Mar. 18,	1926—No. 11	421-460
Mar. 25,	1926—No. 12	461-500
Apr. 1,	1926—No. 13	501-542
Apr. 8,	1926—No. 14	543-580
Apr. 15,	1926—No. 15	581-618
Apr. 22,	1926—No. 16	619-658
Apr. 29,	1926—No. 17	659-696
May 6,	1926—No. 18	697-734
May 13,	1926—No. 19	735-770
May 20,	1926—No. 20	771-808
May 27,	1926—No. 21	809-850
June 3,	1926—No. 22	851-888
June 10,	1926—No. 23	889-928
June 17,	1926—No. 24	929-966
June 24,	1926—No. 25	967-1004

A

Abstracts 150, 195 234 317, 398, 584, 673, 703, 783
Accidents, Reducing lost time. DeHart *967
Acurate angles by optical methods. Hudson *601
Accuracy and production in gear hobbing. Waters *267
Accuracy in repetition work. Limits of. Applegard 389
"Acme" nonshatterable eye shield ..... ‡*927
Adjustable reamers with interchangeable blades. Freeman *488
Adjustable spacing collars for milling cutters. Rogers *252
Adjustable stop for the screw machine. Myers *951
Adjusting the drop light. Tarr *800
Advertisements and the product. Williams 792
Advertising, Value of. MacArthur 564

AERONAUTICS:

—Award for Reed propeller 344
—Growing use of the air mail 812
—Old Army and Navy ideas still rule 650
—To the pole by airplane 804
—Tool for a difficult job. Gregory *645
Aid to the draftsman. Scholl *212
Air hammer experience. Ellsworth 508
Air-operated flue cutter. Feltner *952
Air-operated vise. Wright *327
Air tools prominent at K. C. S. shops. Curtis *899
Air unit, "HB" portable ..... ‡*539
Alcumite—An aluminum bronze alloy. Schenck *61
Alcumite, Characteristics of 489
Allen-Bradley across-the-line switches ... ‡*1002
Allen-Bradley "Inducto-Therm" relay ... ‡*928
Allis direct-current motors, type N. A., Louis ..... ‡*297
Alloy, Alcumite—An aluminum bronze. Schenck *61
Alto tapping machine three-speed, No. 2 . ‡*537
Aluminum and its alloys, Autogenous welding of. Eyles *275, *353
Aluminum paint—discussion. Andrews ... 228
Always more to come. Roper 347
American Engineering Co. "Lo-Hed" Electric-hoist trolley ..... ‡*536
American hydraulic bench broach press ... ‡*77
American hydraulic broaching press type V-18 ..... ‡*179
American industry and legislation. Emery 775
American industry and public policy. Emery 659
American industry and taxation. Emery .. 959
American Multigraph Company, Press tool design of the. Irish *47
American vertical hydraulic broaching machine, pull-type ..... ‡*420
Amortization claims in income tax practice. Thwing 468
Analysis results in both accuracy and cheapness. Gardiner *487
Analytic methods in apprentice instruction. Ichler and Davis 524
Anderson drilling and tapping machine, ten-spindle ..... ‡*456
Angles by optical methods. Hudson *601
Angles? How shall we designate. Hudson. *798
Angular turning on a milling machine—discussion. Kugler *168, Steele 289 *29
Annealing, Local. Moore 686
Anniversary 174
Another metric bill 524
Apprentice instruction, Analytic methods in. Ichler and Davis 669
Apprentice training, More interest in *526
Arbor, Expanding. Frewler *37
Arbor universal, No. 1, Winterhoff saw and ‡

ARC WELDING: See also "Welding and Cutting."

Arc welding practice and inspection. Candy *43
Arcade lift truck ..... ‡*884
Armstrong chrome-vanadium steel wrench . ‡*841
Art of resigning—discussion. Needham ... 348
Ascoloy, Characteristics of 609
A.S.M.E. standards for metal fits *527
Atkins metal-cutting band saw, No. 4 .. ‡*999
Attachment for turning concave and convex surfaces. Havlik *370
Attitude and profits. Edward 437
Attracting men to the metal work industries—discussion. Harlow 504
Autogenous welding of aluminum and its alloys. Eyles *275, *353
Automatic recessing toolholder. Schell .. *643
Automatics for brake drums. Potter & Johnston special ..... ‡*843
Automobile industry and the machine-tool builder—discussion. Thwing 12
Automobile industry borrows little 74
Automobiles and machine tools in France. 233

AUTOMOTIVES:

—Barnes hydraulically-reciprocated honing machines, types Nos. 214 and 212 .. ‡*837
—Boring an oblong hole. Franklin *194
—Characteristics and uses of ground gears. Orcutt 367
—Clamps that draw the work. Rich *871
—Connecting rods in the Stutz shop. Colvin *781
—Cylinder bore finishing. Adams 51
—Cylinder heads of the new Stutz "Eight." Colvin *671
—Deciphering the steel code 638
—Double, balanced fixture. Hudson *723
—Effect of mass production on machine tool design. Pletz 854
—Fixtures and methods in machining Hupp cylinders. Colvin *985
—Fixtures for machining oil-pump bodies. Colvin *753
—Fixtures for overhead-camshaft bearings. Colvin *905
—Getting facts for automobile designers. Condit *9
—Holding chain drives at constant tension. Curtis *823
—Holding oversize pistons for turning. Kugler *70
—Inspection room in a truck plant *718
—Opportunities that lie ahead 574
—Piston methods in the Rickenbacker shop. Colvin *581
—Piston-pin methods that are different. Colvin *701
—Pressing in and reaming piston bushings. French *990
—Quick-operating jig clamps. Francis .. *872
—Recommended practice for the carburizing and heat-treatment of camshafts .. 46
—Records show steady increase in sales of closed cars 712
—Rockford double-spindle "Rigidmil" special ..... ‡*1000
—Rods for Rickenbacker engines. Colvin . *395
—Rough and finish milling cylinder blocks at one pass. Hudson *799
—S. A. E. steels (chemical composition) .. 291
—Setting the hood chafing-strip. Hudson. *992
—Simple fixture for flaring pipe. Hudson *953
—Stevens refacing tool for Ford steering gear bushing ..... ‡*753
—Stevens tools for Fords ..... ‡*690
—Stevens transmission stand for Fords .. ‡*618
—Stevens wheel puller and hub re-threader ..... ‡*657
—"Storm" cylinder-boring machine, Model F ..... ‡*964
—Strand auto body buffing machine ..... ‡*176
—Stutz milling and boring fixtures. Colvin *631
—To establish an American standard 45
—Tool for finishing combustion chamber. Peters *646
—Tooling for a valve guide. Colvin *935
—Tradition and the oil can. Godfrey 598
—Transportation units in the Fiat works. *590
—Turnover jig for small connecting rods. Rolfe *762
—Two methods of making flywheels. Colvin *821
—Where machine equipment does double duty. Colvin *349
—Willys-Knight production methods. Colvin *147, *191, *229, *263, *313, *423, *461, *513, *551
"Autosan" parts-washing machine, Improved ..... ‡*1000
Award for Reed propeller 344

B

Babbitt-bearing failures, Causes of. Allen . 754
Babbitt in unusual place, Use of. Fowler *761
Babbitt metal linings, Prevention of loose. Allen 911
Babbitt sucessfully used for a stressed machine part. Plaisted 347
Babbitting a large bearing. Payne 411
Babbitting bearings—discussion. Lute for. Fowler 607, Griggs 992
Babbitting bearings, Mixture for. Huff .. 760
Badger grinding fixture for leaf spring eyes ..... ‡*219
Badger improved wet-grinding system .. ‡*76
Bakelite and its compositions, Characteristics of 413
Baker truck with lifting magnet ..... ‡*927
Balancing machine, No. 3, Olsen-Lundgren vertical ..... ‡*417
Ball and roller bearings in machine shops and machine tools. Godfrey 167
Barnes Co., W. F. & John, production gang drill, 20-inch ..... ‡*455
Barnes hydraulically-reciprocated honing machines, types Nos. 214 and 212 .... ‡*837
"Bates" pneumatic forging hammer .... ‡*732
Battery charger, Weidenhoff constant-potential ..... ‡*963
Baum's bench lever press ..... ‡*926
Baush high-speed multiple drilling machine, center-feed, No. 2A ..... ‡*886
Bearing, Babbitting a large. Payne 411
Bearing, Hyatt lineshaft ..... ‡*655
Bearing metals, Constituents of. Allen .. 660
Bearings and lubrication. Godfrey 743
Bearings and their lubrication 530
Bearings—discussion. How to fit shims in. McVicker *724, McIntosh *992
Bearings—discussion. Lute for babbitting. Fowler 607, Griggs 992
Bearings, Fixtures for overhead-camshaft. Colvin *905
Bearings in machine shops and machine tools. Ball and roller. Godfrey 167
Bearings, Pouring babbitt-metal. Allen .. 722
"Beaver" power drive No. 44 ..... ‡*334
Belts, Device for shifting cone. Wright. *759
Bench, Hobart electrical test ..... ‡*218
Bench, model 36, Weidenhoff electric test. ‡*458
Bending small wire articles. Dowel *680
Bending tool—discussion. Inexpensive. Harper *169
"Beryllium" ..... ‡217
Besly vertical disk grinder special adaptation ..... ‡*335
Better lighting increases accuracy 686
Betts locomotive-frame slotting machine. ‡*259
"Betts" tire mill, improved ..... ‡*220
"Betts" vertical boring mill, 32-foot .... ‡*296
Beware of "bargains." Godfrey 311
Bicknell-Thomas tapping attachment, improved ..... ‡*695
"Big Bear" vise, Parker ..... ‡*654
Big men in small shops. Entropy 674
Biggest one-piece gear-tooth cutter *708
Bilton two-spindle pro-ducto-matic ..... ‡*36
Blackboard in the shop 862
Blackhawk quick-detachable wrench set, No. 12 ..... ‡*179
Blades — discussion, Nicked hacksaw. Rogers *30, Silvester 799
Blanchard vertical surface grinder No. 16, improved ..... ‡*923
Blanking-die data *329
Blueprints from blueprints. Hardecker ... 980
Bluing the faces of blanking dies. Doescher 830
Bolt-heading machines, ⅝ and ⅞-inch, National semi-hot, automatic-feed ... ‡*841, 886
Bonney chrome-vanadium wrenches ..... ‡*338
Bonney wrench kits ..... ‡*840

BOOK REVIEWS:

—Accounting systems: principles and problems of installation 404
—Aircraft instruments 664
—American year book 546
—Analyzing foreign machinery markets statistically. Glossary of terms 50
—Annual report of the board of regents of the Smithsonian Institution, 1924 162
—Atlas of traffic maps 50
—Automobile worm gearing 207
—Bothering business 50
—British wire-drawing and wire-working machinery 50

V 620.5
V.64 pt.1

—Budgeting to the business cycle 207
—Bureau of standards 207
—Civil aviation 318
—Decisions of courts affecting labor, 1923-1924 472
—Electrical trouble shooting on the motor car 442
—Forecasting, planning and budgeting in business management 546
—Foreign commerce handbook, 1926-1927 546
—Foundry practice 664
—Fresh air and ventilation 664
—Health maintenance in industry 280
—Human factor 162
—Income tax procedure, 1926 manual 280
—Industrial furnaces 902
—Industrial museum 280
—Industrial safety 162
—Investigation of the fatigue of metals, series of 1925 318
—Lectures on engineering practice, 1924-1925 546
—Locomotive—erratum 442, ... 546
—Mainsprings of men 280
—Management in the factory 50
—Mass production of equipment 162
—Mechanical world year book, 1926 .. 318
—Merchants' association of New York, year book, 1925 546
—Methods of teaching industrial subjects 902
—Metric system 546
—Ouroboros, or the mechanical extension of mankind 318
—Popular research narratives 404
—Principles of metallurgy of ferrous metals 404
—Problems of economic restoration developed by the world war 162
—Proceedings of the thirteenth annual convention of the American Railway Tool Foremen's Association 472
—Proceedings, twenty-eighth annual meeting 442
—Reduction in prices through the elimination of industrial waste 664
—Report of experiments to determine the relative power transmitting capacity of belts on vertical, angular and horizontal drives 472
—Scientific foundations of business administration 442
—Six-place tables 50
—Statistical abstract of the United States, 1924 472
—Tentative standards for plow bolts 472
—Thermal expansion of tungsten 442
—Tolerances, allowance and gages for metal fits 442
—Tool engineering—Punches, dies and gages 162
—Trade-mark profits and production 902
—Trade standards 664
—Treatise on dimensioning 404
—Über den einfluss des machanischen fahrwiderstandausgleichs auf die berechnung der eisenkonstruktion von brückenkranen 472
—Union scale of wages and hours of labor, May 14, 1924 546
—Wörterbuch der modernen maschinenwerkstatt 302
—Year book, 1926, American Institute of Electrical Engineers 664

BORING:

—"Betta" vertical boring mill, 32-foot..‡•296
—Building a large boring mill in Canada.•588
—Details of machining operations in a British railway shop ..... •737
—Fixtures for machining oil-pump bodies. Colvin ..... •753
—Handling chilled car wheels in the shop. Hudson ..... •405
—Handling locomotive repairs to meet a scheduling system. Curtis ..... •433
—Hoefer double-end drilling, boring and reaming machine, special..... ‡•1001
—Home-made device to bore Ford timers—discussion. Dunn ..... •212
—Increasing the diameter of a boring mill table. Klick ..... •643
—Maxwell drilling and boring tools—correction ..... ‡•655, 696
—Moline cylinder-lapping and boring machine ..... ‡•35
—"Niles" 48-in. car wheel boring machine ..... ‡•849
—Odds and ends of Frisco repairs. Curtis.•709
—Portable grinder used on a boring mill. Bailey ..... •30
—Some Singer sewing-machine methods..•907
—Special fixtures for milling and boring.•426
—Steps in assembling a 36-ft. boring mill.•716
—"Storm" cylinder-boring machine, model F ..... ‡•964
—Stutz milling and boring fixtures. Colvin.•631
—Turning an awkward piece on a boring machine. Franklin ..... •570
—Utilizing worn boring-bar cutters. Marks.•370
—Willys-Knight production methods. Colvin ..... •147, •191, •229, •461
Boring an oblong hole. Franklin ..... •194
Boring in a lathe. Stern ..... •170
Boring work in steady rests. Crawford.. •569
Boxes, Repairing locomotive driving. Wright ..... •212
Brake, Clark magnetic ..... ‡•926
Brake for cranes, Canton safety friction load ..... ‡•459
Brass flanges for composition pinions.. 856
Brass stock for screw machine parts, Weight of 955
Brazing and riveting sheet metals, Soldering, Eyles ..... •443, •483, •521
Bridgeport Ordnance District, Mobilization plans of the, Franklin ..... •223
Bridgeport traffic spots ..... ‡•618
Bristol pyrometer controller, model 479.‡•806
BRITISH: See also "Great Britain," "England," etc.
Broach, Improvised, Myers ..... •370
Broaching machine, No. 2, Lapointe special ..... ‡•965
Broaching machine, pull-type, American vertical hydraulic ..... ‡•420
Broaching machine, 3-L, Lapointe hydraulic ..... ‡•654
Broaching tool for the screw machine, Herbes ..... •679
Brown & Sharpe automatic duplex milling machine, No. 37 ..... ‡•496
Brown & Sharpe cutter testing fixture ..‡•843
Brubaker combined drill, reamer and countersink ..... ‡•998
Bucking economic laws 74
Buffalo horizontal bending roll, No. 1. ‡•378
Buffalo universal iron workers with built-in copers ..... ‡•879
Buffing machine, Strand auto body ..... ‡•176
Buffing speeds on 25- and 60-cycle current, Higher, Herold 634
Building a large boring mill in Canada ..•588
Bullard pressure lubrication ..... ‡•37
Burner and preheater, Milburn oil ..... ‡•35
Burnishing machine, No. 1, Defiance .... ‡•535
Bushing—discussion, That odd-sized, Doescher 252, Ferber ..... •448
Bushing, Stevens refacing tool for Ford steering gear ..... ‡•733
Bushings, Pressing in and reaming piston, French ..... •990
Bushings, Use for jig, Jager ..... •569
BUSINESS: See also "Trade."
Button, Self-centering test, Wheatcroft .•913
Buttons, General Electric dust-tight push.‡•181
Buy for production—sell by the pound, Roper 394
Buyers—discussion, Code of ethics for, Terry 279
Buying a second-hand lathe, Entropy ... 707

C

C. & N. W. shops, Driving box practice at the, Curtis ..... •501
Calculating lead gears—discussion, Kugler. 210
Caldwell vertical-capstan car spotter....‡•690
CALIPER: See also "Gage."
Calipers, Extension for, Herman ..... •327
Cam cutting machine, Home-made, Wright.•448
Cam indexing motion, Sassen ..... •705
Cams, Casehardening screw-machine, Kopsch•912
Camshafts, Recommended practice for the carburizing and heat-treatment of..... 46
Canton safety friction load brake for cranes ..... ‡•459
Cardboard templets of motors, Darling... •30
Carroll & Jamieson motor-driven lathe, 15- and 16-inch ..... ‡•77
Cars on the New Haven railroad, Maintenance of gas-rail ..... •623, •661
Case, Handy, Scholl ..... •289
CASEHARDEN: See also "Heat-treatment."
Casehardening screw-machine cams, Kopsch ..... •912
Cast-iron plates for holding abrasive cloth, Hampson ..... •606
CASTING: See also "Foundry," "Pattern," etc.
Catalogs—discussion, Diction in, Stern, 438; Karlberg, 592; Stuart..... 674
Catching the mistake, Willis..... 312
Causes of babbitt-bearing failures, Allen. 754
Chafing-strip, Setting the hood, Hudson.. •992
Chain drives at constant tension, Holding, Curtis ..... •823
Chambersburg smithing hammer..... ‡•880
Changes in wheel-lathe design..... •740
Changing environment of industry, Alexander 944
Changing shop equipment..... 256
Characteristics and use of hacksaws..... •763
Characteristics and uses of ground gears, Orcutt 367
Characteristics of Alcumite..... 489
Characteristics of Ascoloy 609
Characteristics of Bakelite and its compositions 413
Characteristics of collets in common use—discussion, 512, Stuart 624
Characteristics of Everdur metal No. 50.. 213
Characteristics of Genelite 647
Chart for use in metal drawing, Douglas•953
Chasers for self-opening and adjustable dieheads 451
Cheap power 728
Chicago railway shop, Odd jobs in a, Curtis ..... •563
Chips from drilled holes, Removing, Faulhaber 679
Choosing your business partners, Leach.. 361
Christy "XTY" counterbore ..... ‡•767
Chronograph, Silberberg master..... ‡•964
Chuck and double-end mill, Thurston.... ‡•178
Chuck, "John" reversing tapping..... ‡•295
Chucks, Wahlstrom safety tapping..... ‡•999
Cincinnati heavy-duty grinders..... ‡•926
Clamps for jigs and fixtures..... •371
Clamps, Quick-operating jig, Francis.... •872
Clamps that draw the work, Rich..... •871
Clark flexible coupling ..... ‡•879
Clark magnetic brake ..... ‡•926
Cleaner, No. 500, "Tabco" portable vacuum ..... ‡•458
Cleaning machine, Demco..... ‡•618
Cleaning suggestions for the shop..... 49
Cleaning tank, Portable, Wilmarth..... •449
Cleveland automatic lead-screw control..‡•182
"Cleveland" double-end threading machine, model J ..... ‡•579
Cleveland open-gap punching machine, heavy-duty ..... ‡•921
Clip for a scale, Retaining, Blair..... •570
Coating steel springs to resist corrosion—discussion, Andrews 519
Coats ball bearing abrasive-belt grinders.‡•379
Code of ethics for buyers—discussion, Terry 279
Collapsible tap altered to give higher production, Randol ..... •170
Collar for the counterbore, Stop, Moore.. •992
Collars for milling cutters, Adjustable spacing, Rogers ..... •252
Collets, Titan friction ..... ‡•36
Collets in common use—discussion, Characteristics of, 512, Stuart..... 624
Columbia "JFS" variable speed transmission ..... ‡•920
Combustion chamber, Tool for finishing, Peters ..... •646
COMMERCIAL: See also "Trade."
Comparative cost of industrial fuels..... 202
Comparative strength of spot welds and rivets 8
Comparison of drawing methods—discussion, Entropy 568, Swenson 970
COMPRESSED AIR: See also "Air" and "Pneumatic."
Compressor, General Electric centrifugal air ..... ‡•259
Connecticut exhaust fans ..... ‡•580
Connecting rods each month, How a railroad shop manufactures a hundred, Curtis ..... •851
Connecting rods in the Stutz shop, Colvin.•781
Constituents of bearing metals, Allen.... 660
Contents of the review pages..... 80, 130
Continuous fractions as a means for figuring change gears—discussion, Charushin 196, Kugler 752
Control, Electric Controller & Manufacturing Co. synchronous motor..... ‡•840
Controller for electric arc welders, "Man" master ..... ‡•921
Controller, model 479, Bristol pyrometer.‡•806
Controllers, General Electric drum..... ‡•734
Conveniences of some old machines, Forbes 670
Convenient dipping hook for the soda tank, Wheeler ..... •914
Convenient location of a factory office, Wright ..... •831
Convenient profiling fixture—discussion, Gregory ..... •169
Convention for the protection of industrial property, International 625
Converting a knurl holder into a turning tool, Simon ..... •832
Conveyor and its manufacture, Screw, Wright ..... •931, •977
COOLANT: See also "Cutting," "Lubricant," "Oils," etc.
Co-operate with your legislators 918
Co-operation in the elimination of waste, Hodge 630
Copper, Oxy-acetylene welding of, Miller.•639
Cost of accuracy 804
Cost of repair parts 332
Cost, price and service 996
Counterbore, Christy "XTY" ..... ‡•767
Counters, Jobs that count in making..... •790
Countersink, Brubaker combined drill, reamer and ..... ‡•998
Coupling, Clark flexible ..... ‡•879
Coupling, "Flexoid" shaft ..... ‡•1001
Crane trucks, Safety guards for, Wright.. •369
Cranes, Girls handling, Godfrey 356
Cranes in and out of the shop, Modern, •320, •408
Crankpin design for electric locomotives—discussion, Burby •287, Wood 316
Credit where it is due, Hudson..... 864
Crescent trailer for industrial tractors..‡•695
Cripple, Wright ..... •319
Current developments in American business 811
CURVE: See also "Chart."
Cutler-Hammer across-the-line starter....‡•656
Cutler-Hammer water-tight remote control station ..... ‡•297
Cutter and tool grinder motor-driven, No. 1, "Grand Rapids" universal..... ‡•338
Cutter, Biggest one-piece gear-tooth..... •708
Cutter model O, Unishear inside..... ‡•848
Cutter testing fixture, Brown & Sharpe.. ‡•843
Cutter, type F, Lovejoy deep slotting.... ‡•534
Cutters, Adjustable spacing collars for milling, Rogers ..... •252
Cutters and cutter grinding, Reducing costs of, Hampson 784
Cutters, Holders for fly, Aulmann..... •570
Cutters and model D reamers, Kelly model M ..... ‡•334
Cutters (simplified practice), Sizes of standard milling 31, 71
Cutters, Utilizing worn boring-bar, Marks.•370
Cutting a pinion on a slotter, Waldo.... •369
Cutting-off machine, automatic, Halliden rotary wire-straightening and ..... ‡•578
Cylinder blocks at one pass, Rough and finish milling, Hudson ..... •799
Cylinder bore finishing, Adams 51
Cylinder-boring machine, model F, "Storm" ..... ‡•964
Cylinder heads of the new Stutz "Eight," Colvin ..... •671
Cylinder mechanism, Simple recoil, Fenno.•679
Cylinders, Fixtures and methods in machining Hupp, Colvin ..... •985

Page

D

Danville shops, Welding and air equipment in the. Curtis *941
Darling adjustable diehead .....‡*691
Davey "Vibrometer" .....‡*175
Davis "Rotomatic" pipe-threading machine, single-end .....‡*538
Decimal equivalents 801
Deciphering the steel code 638
Defiance burnishing machine, No. 1 .....‡*535
DeLaval two-worm reduction gear .....‡*260
Demco safety cleaning machine .....‡*618

DESIGN: See also "Drawing" and particular items.

—Accuracy and production in gear hobbing. Waters *267
—Changes in wheel-lathe design *740
—Characteristics and uses of ground gears. Orcutt 367
—Crankpin design for electric locomotives—discussion. Burby *287, Wood 316
—Economy in press tool design. Irish *619, *665
—Effect of mass production on machine tool design. Pletz 854
—Examples of press tool design for typewriter parts. Irish *825
—Functions of a project engineer in a technical organization. Hardecker *641
—Gages used in the United States 833
—Getting facts for automobile designers. Condit *9
—Machine design and the handling problem. Eidmann *855
—Machine design for a purpose. Entropy. 302
—Making engraved rolls of steel and copper *57, *163
—Material specifications. Hardecker 520
—Materials used in electrical machine design, Wood 17
—Plight of industrial designs. Myers. 704, 728
—Press tool design of the American Multigraph Company. Irish *47
—Screw conveyor and its manufacture. Wright *931, *977
—Types of commercial lock washers *915
—V-block design for jigs and fixtures *171
Design and manufacture of hypoid gears. Stewart & Wildhaber *857
Design estimating. Hardecker 714
Design of gear tooth forms. Buckingham *299, *345, *391, *439, *465, *509, *555, *595, *635, *719, 745, *817, *895, *945, *973.
Details of machining operations in a British railway shop. Chubb *737
Detrick & Harvey products, Manning, Maxwell & Moore, Inc., to manufacture .....‡579
Detroit centerless grinder, No. 5-C .....‡*922
Development in industrial standardization during 1925. Skinner 22
Device for shifting cone belts. Wright *759
Device to form radii on the corners of a grinding wheel. Jank *250

DIAGRAM: See also "Chart."

DIAL INDICATOR: See also "Gage."

Diamond face-grinding machine improved. ‡*295
Diamond grinder work-holding fixture .....‡*76
Diction in catalogs—discussion. Stern 438, Karlberg 592, Stuart 674

DIE, PRESS: See also "Press," "Forging," "Screw," etc.

Die-blocks, Heat treatment of. Porter, Jr.. 950
Die-casting machine, improved Simplex .. ‡*298
Die-casting, Pressure vs. gravity. Mortimer 713
Die data, Blanking *329
Diehead adapted to large turret lathe, Small. Weigel *28
Diehead, Darling adjustable .....‡*691
Diehead, No. 7-H, "Hartness" high-speed. ‡770
Diehead, style R, "Namco" self-opening .. ‡*179
Diehead, type O, improved, Murchey revolving .....‡*218
Dieheads, Chasers for self-opening and adjustable 451
Die sets for punch-press work, Standardized. Colvin *245
Die-stock, Oster electric .....‡*693
Dies, Bluing the faces of blanking. Doescher 830
Dill slotting machines .....‡179
Dimensioning assembly drawings 366
Discounts on school machinery. Blanchard 403
Disston inlaid high-speed steel planer knives .....‡692

DIVIDING: See also "Index" and "Graduating."

Dividing head, Simple. Homewood *723
Divine Brothers automatic polishing machine .....‡*925
Division of labor in tool manufacture. Pennock 599
Do salesmen know their product? Gerry 360
Does copying develop an industry? 876
Does the draftsman co-operate with the machine shop? Davies *980
Double, balanced fixture. Hudson *723

DRAFTING: See also "Drawing."

Draftsman co-operate with the machine Shop, Does the? Davies *980

DRAWING-DRAFTING: See also "Design."

—Aid to the draftsman. Scholl *212
—Cardboard templets of motors. Darling. *30
—Comparison of drawing methods—discussion. Entropy 568, Swenson 970
—Dimensioning assembly drawings 366
—How to keep drawings clean. Steele ...*954
—Let the draftsman see what happens—discussion. Needham 312
—Photographs for drafting records—discussion. Hardecker 383, Guyler 940
—Saving checking time on large drawings. Hardecker 751
—Simplified drawing-room practice—discussion. Hommel 526
—Standardization of drawing room practice 279
—Triangle altered for lettering. Myers ..*989
—Unethical use of manufacturers' drawings—discussion. Terry 436
Drawing, Chart for use in metal. Douglas. *953
Drawing, "Homo" furnace equipment for. ‡*298
Drawn shells reduce machining costs. Sheldon *741

DRILLING: For drilling jigs generally, see "Jigs and Fixtures."

—Anderson drilling and tapping machine, ten-spindle .....‡*456
—Barnes Co., W. F. & John, production gang drill, 20-inch .....‡*455
—Baush high-speed multiple drilling machine, center-feed, No. 2A .....‡*886
—Building a large boring mill in Canada. *588
—Connecting rods in the Stutz shop. Colvin *781
—Conveniences of some old machines. Forbes 670
—Cylinder heads of the new Stutz "Eight." Colvin *671
—Farrel automatic rivet drilling machine .‡*540
—Fixtures that can be used in many shops. Hudson *893
—Floor-stand for drill-press tools. Wheeler. *68
—Gibbs disk-drive drilling machine .....‡*338
—Hoefer automatic piston-drilling machine .....‡*844
—Hoefer double-end drilling, boring and reaming machine, special .....‡*1001
—Hoefer piston-drilling machine .....‡*767
—Hoefer production piston-drilling machine .....‡*805
—Improvised motor drive for drilling machine. Wright *68
—Instructions for grinding twist drills. ... *571
—Maxwell drilling and boring tools—correction .....‡*655, 696
—Millers Falls electric drill .....‡*879
—Modern Machine Tool Co. combination drill table and vise .....‡*734
—Morse Twist Drill & Machine Co. forged drills .....‡36
—Reed ball bearing sensitive drilling machines .....‡*182
—Robertson sensitive drilling machine ...‡*769
—Ryerson inclined rail drill .....‡*696
—Selecting tap drills—discussion. Johnson 681, Myers 832
—Spring guard on a drill spindle. Franklin *869
—Stutz milling and boring fixtures. Colvin *631
—Taylor & Fenn ball bearing adjustable-head drilling machine .....‡*220
—That odd-sized bushing—discussion. Ferber *448
—Turning an awkward piece on a boring machine. Franklin *570
—Turnover jig for small connecting rods. Rolfe *762
—United States portable electric drills, ½-inch .....‡*181
—Warner & Swasey "Roto" pneumatic grinders and drills .....‡*768
—Willys-Knight production methods. Colvin .. *191, *299, *263, *313, *423, *461
Winterhoff drill, No. O "Junior" .....‡*180
Drill, reamer, and countersink, Brubaker combined .....‡*998
Drilling and tapping holes in line. Warriner *525
Drilling spring steel. Kauffman 170
Drills, Goodell-Pratt electric .....‡*844
Drive for drilling machine, Improvised motor. Wright *68
Drive for small motors, Efficient friction. Allis *831
Drive No. 44, "Beaver" power .....‡*334
Driving box practice at the C. & N. W. shops. Curtis *501
Drives at constant tension, Holding chain. Curtis *823
Drums, Potter & Johnston special automatics for brake .....‡*843
Duff pinion puller .....‡*1003
"Duplex" nut-slotting machine, Pellow .. ‡*1004

E

Economy due to power factor correction. Dittenhofer 243
Economy in press tool design. Irish *619, *665
"Economy" tool grinder, No 12. Robertson .....‡*847

EDITORIALS:

—Anniversary 686
—Another metric bill 174
—Automobile industry borrows little 74
—Bearings and their lubrication 530
—Better lighting increases accuracy 686
—Bucking economic laws 74
—Changing shop equipment 256
—Cheap power 728
—Co-operate with your legislators 918
—Cost of accuracy 804
—Cost of repair parts 332
—Cost, price and service 996
—Does copying develop an industry? 876
—Employers' liability 612
—Engineers as executives 728
—Experiment in psychology 996
—Farmer's problem 492
—Financing railroad shop equipment 416
—Foreign or domestic markets 996
—Foreman and his pay check 958
—Foreman's duties 530
—French exchange professorship 294
—Getting best average results 374
—Getting what you pay for 686
—Good lighting decreases useless work ..918
—Good lighting decreases waste 766
—Growing use of the air mail 612
—Helping men earn more money by time-study 454
—Immigration—or machinery? 574
—Important company representative 416
—Improving Government purchasing 492
—Inspection—too much or too little 416
—Installment sales 836
—Interest of corporations in basic research 836
—Internal standards 876
—Is the peak behind us? 530
—Is there a limit to overhead? 374
—Just suppose 74, 174, 216, 256, 454
—Labor and scientific management 958
—Lower turnover to lower costs 996
—Machinery on the farm 650
—Metric question again 612
—Monopolies 74
—Museum of the peaceful arts 918
—Non-partisan tax bill 374
—Old Army and Navy ideas still rule ...650
—On selling machinery 332
—Opportunities that lie ahead 574
—Photographic shop records 454
—Plight of industrial designs 728
—Price and quality 728
—Progress or die 650
—Progress photographs 766
—Railroad repair shop equipment 612
—Railroads and union-management co-operation 294
—Salesmen who know get orders 454
—Selling old machines for scrap 294
—Shall the tail wag the dog? 492
—Shop transport and costs 766
—Simple specifications help all 530
—Simplifying wire gages 256
—Speakers who talk overtime 374
—Standardization and progress 174
—Standardization without ruts 958
—Standby equipment 650
—Tangible encouragement 686
—Text for advertisers 34
—To mediate railroad labor disputes ...174
—To the pole by airplane 804
—Trade association as a credit builder ..174
—Trade associations' big job 34
—Trade schools under the Guild system ..454
—Two years to reorganize the Government 216
—Unecessary accuracy 216
—Vocational training for the sub-normal 332
—Volume 64 34
—Wages 876
—Welcome settlement 804
—What do we know about bearings? ... 34
—What is the average age of your machine equipment? 958
—When is a machine obsolete? 332
—Where quantity and quality go together 492
—Where schools can help 256
—Why American industry leads 574
—Why some small shops succeed 836
—Widening use of machinery 216

EDUCATION: See also "Apprentice."

—Analytic methods in apprentice instruction. Ichler and Davis 524
—Discounts on school machinery. Blanchard 403
—French exchange professorship 294
—Is engineering education too technical? —discussion. Hampson 340, Carroll 362, Entropy 447
—Is there anything the matter with engineering education? Entropy 972
—Making and keeping all-around mechanics. Godfrey 507
—More interest in apprentice training 669
—Trade schools under the Guild system..454
—Vocational training for the sub-normal 332
—Where schools can help—discussion 256, Swenson 562, Anderson 752
Effect of lubricant on taper press-fits ..*365
Effect of mass production on machine tool design. Pletz 854
Efficient friction drive for small motors. Allis *831
Eisler combination vacuum pump .....‡*963
Eisler electric welding machine .....‡*732
Eisler "Midget" high-vacuum pump ...‡*657
Electric Controller & Manufacturing Co. synchronous motor control .....‡*840
Electric heat for the machine shop, Creasy. *865
Electric heater for gasket rings. Hudson .*682

ELECTRIC LIGHTING: See also "Lighting."

Electric metal heater in wheel manufacture. Irish *21

ELECTRIC WELDING: See also "Welding and Cutting."

Electrode, "Elkonite" Copper-tungsten ..‡458
"Elkonite" copper-tungsten electrode ...‡458
Employers' liability 612
End-stamping tool for automatic screw machines. Simon *69
ENGINE: See also "Automotives," and such details as "Cylinder," "Piston," etc.
Engineers as executives 728

ENGLAND: See also "Great Britain," and "British."

Equipment does double duty. Where machine. Colvin *349
Ethics and the selling of machinery. Godfrey 27
Everdur metal No. 50, Characteristics of. 213
Examples of press tool design for typewriter parts. Irish *825
Exhibit, Permanent machine tool. Roe.. 889

Page

Expanding arbor. Frewler *526
Experiment in psychology 996
Experimental work in the shop. Entropy. 960
Extension for calipers. Herman *327
Eye shield, "Acme nonshatterable.....‡*927

F

Facing machine, Rockford pipe-flange....‡*806
Factory manager speaks on production control and safety. Irish.....735, 785
Fairbanks Morse & Co. grease tubes for ball-bearing motors .....‡*734
Fans, Conecticut exhaust.....‡*580
Farmer's problem 492
Farrel automatic rivet drilling machine..‡*540
Feed for multi-spindle automatics, Pneumatic stock. Lincoln *607
Feed, Littell heavy-duty automatic roll. ‡*337
Feeds, Magazine *322, *407
Fellows thread generator, improved ....‡*497
Fiat works, Transportation units in the..*590
Filing machine improvised from a sensitive drill press. Kugler *169
Financing railroad shop equipment.....416
Finishing opposite sides of valve plates by continuous rotary milling. Erwin, Jr...*831
Finishing roller. Reibel.....*759
Fire stopper, "Rego".....‡*218
Fitchburg valve grinding machine.....‡*651
Fits, A.S.M.E. standards for metal.....*527

FIXTURE: See also "Jigs and Fixtures" also respective varieties of work.

Fixtures and methods in machining Hupp cylinders. Colvin *985
Fixture for grinding internal radii. Wright*211
Fixture for grinding threading tools. Landis *680
Fixture for holding tubes. Kendall.....*412
Fixture for machining shoes and wedges. Hahn *991
Fixture for milling steering-column nuts. Erwin, Jr. *989
Fixture, Gardner asbestos clutch ring grinding .....‡*178
Fixtures for machining oil-pump bodies. Colvin *753
Fixtures for overhead-camshaft bearings. Colvin *905
Fixtures that can be used in many shops. Hudson *803
Flanges for composition pinions, Brass....856
"Flexoid" shaft coupling .....‡*1001
Floating reamer holder. Boeckel.....*70
Floor stand for drill-press tools. Wheeler. *68
Flue cutter, Air-operated. Feltner *952
Flues, Rattler for cleaning locomotive. Rich *328
Flywheels, Two methods of making. Colvin *821
Ford steering gear bushing, Stevens refacing tool for.....‡*733
Ford timers—discussion, Home-made device to bore. Dunn.....*212
Fords, Stevens tools for.....‡*690
Foreign or domestic markets.....996

FOREIGN TRADE: See "Trade"

Foreign trade as a co-operative venture. Hoover 481
Foreman and his pay check 958
Foreman, Industrial Americanization and the. Rindge 593
Foreman training is essential to plant self-government. McCormick, Jr.....863
Foreman's duties 530
Foreman's job. Godfrey.....431
Foremen, Training factory. Fulton.....421

FORGING: See also press.

—Alcumite—An aluminum bronze alloy. Schenck *61
—"Bates" pneumatic forging hammer...‡*732
—Heat treatment of die-blocks. Porter, Jr. 950
—National high-duty forging machine...‡*257
—Sherman head mask for forge shops..‡*258
Forge work in a railroad shop. Stanley.. *5
Forging rings by the upset process. Kielman 949
Foster universal turret lathe, No. 1—B..‡*847
Fostoria coil spring winder.....‡*579

FOUNDRY: See also "Pattern."

—Wabble rumbler. Hudson *870
French exchange professorship.....294
Frisco repairs, Odds and ends of. Curtis.*709
Fuels, Industrial 202
Functions of a project engineer in a technical organization. Hardecker.....*641
Functions of the time study and methods analyst. Maynard 729
Furnace equipment for drawing, "Homo".‡*298
Furnace, No. 700, Johnson heat-treating.‡*540
Future of export trade in metal-working machinery. Rastall *755

G

GAGE: (Including calipers, micrometers, test indicators, other measuring instruments, inspection, etc.)

—Limits of accuracy in repetition work—discussion. Applegard 389, Muirhead 948
—Method of indicating go and not go ends of gages. Bach *210
—Ordway toolmakers' gage .....‡*838
—S.A.E. proposes unification of wire gages 266
—Simplifying wire gages.....256
—Types of manufacturing gages.....*725

Page

—Willys-Knight production methods. Colvin *191, *461
Gage for shell adapters. Davey.....*412
Gage, "Grove" indicating .....‡*965
Gages, Standard thread. Githens.....760
Gages used in the United States.....833
Ganschow worm gear speed reducers.....‡*997
Gardner asbestos clutch ring grinding fixture .....‡*178
Gardner oilgear-feed, heavy-duty, disk grinder, double-spindle, No. 28.....‡*536
Gardner special hexagon grinding machine, triplex, No. 78 .....‡*333
"Garvin" automatic tapping machine, No. 2-BG, improved .....‡*883
"Gasifier," Socony .....‡*617

GASOLINE ENGINE: See "Engine," "Automotives," etc.

Gaterman pneumatic oscillating tapping machine No. 8, improved .....‡*182
Gaterman pneumatic oscillating tapping machine No. 4A1 .....‡*376

GEARING:

—Accuracy and production in gear hobbing. Waters *267
—Biggest one-piece gear-tooth cutter *708
—Brass flanges for composition pinions..856
—Calculating lead gears — discussion. Kugler 210
—Characteristics and uses of ground gears. Orcutt 367
—Continuous fractions as a means for figuring change gears—discussion. Charushin 196, Kugler 752
—DeLaval two-worm reduction gear....‡*260
—Design and manufacture of hypoid gears. Stewart & Wildhaber.....*857
—Design of gear tooth forms. Buckingham. *299, *345, *391, *439, *465, *509, *555, *595, *635, *719, 745, *817, *895, *945, *973.
—Horsburgh & Scott worm gear speed reducers .....‡*691
—Method of finding lead gears—discussion. Haverstick 244
—"Pfauter" automatic gear hobbing machines, improved .....‡*494
—Relation of load to wear on gear teeth. Buckingham *777, 969
—Selecting lead gears for a hobbing machine. Demkier 270
—Smith reducing gears type 2.....‡*181
"Gem Junior" bench lathe, Kiddie's.....‡*38
Genelite, Characteristics of 647
General Electric back-geared induction motor drive .....‡*1003
General Electric centrifugal air compressor .....‡*259
General Electric control panel, two-speed.‡733
General Electric demand meter, type PD.‡*532
General Electric drum controllers.....‡*734
General Electric dust-tight push buttons.‡*181
General Electric master switch.....‡*656
General Electric overload relay, improved.‡*770
General Electric resistance starters, improved .....‡*221
General Electric resistance welding machines .....‡*576
General Electric reversing starter for squirel-cage motors.....‡*926
General Electric soldering iron.....‡*498
General Electric synchronous motors.....‡339
Generator, improved, Fellows thread.....‡*497
Geneva movement, Mathematical analysis of the. Seybold *793
Geneva stop and similar mechanisms, Inertia forces in the. Hall *603
Geometric adjustable and collapsing taps, class S .....‡*180
Getting best average results 374
Getting facts for automobile designers. Condit *9
Getting in on time 787
Getting machine tool capacity. Entropy..922
Getting the most out of your machine tool dollar. Hartman 1, Brown 183, Westbrook 261, George 381, Graham 697, Sandmann 792, Gleason 809, De Vlieg 929
Getting what you pay for 686
Gibbs disk-drive drilling machine .....‡*338
Girls handling cranes. Godfrey.....356
Gisholt turret lathes, 3L and 4L.....‡*687
"Give references and state salary requir.d." Wright 384
Good lighting decreases useless work.....918
Good lighting decreases waste.....706
Goodell-Pratt electric drills .....‡*844
Gould & Eberhardt shapers, improved...‡*848
Goulds centrifugal coolant pump.....‡*842
Graduating machine, Noble & Westbrook level .....‡*38
"Grand Rapids" universal cutter and tool grinder motor-driven, No.1 .....‡*338
Grant double-end threading machine, automatic .....‡*694

GREAT BRITAIN: See also "British," "England."

GRINDING:

—Badger grinding fixture for leaf spring eyes .....‡*219
—Badger improved wet-grinding system... *76
—Besly vertical disk grinder special adaptation .....‡*335
—Blanchard vertical surface grinder No. 16, improved .....‡*923
—Cincinnati heavy-duty grinders .....‡*926
—Coats ball bearing abrasive-belt grinders .....‡*379
—Detroit centerless grinder, No. 5-C.....‡*922
—Device to form radii on the corners of a grinding wheel. Jank *250
—Diamond face-grinding machine improved .....‡*295

Page

—Diamond grinder work-holding fixture..‡*76
—Fitchburg valve grinding machine....‡*651
—Fixture for grinding internal radii. Wright *211
—Fixture for grinding threading tools. Landis *680
—Fixtures for machining oil-pump bodies. Colvin *753
—Gardner asbestos clutch ring grinding fixture .....‡*178
—Gardner oilgear-feed, heavy-duty, disk grinder, double-spindle, No. 28.....‡*536
—Gardner special hexagon grinding machine, triplex, No. 78 .....‡*333
—"Grand Rapids" universal cutter and tool grinder motor-driven, No. 1.....‡*338
—Handling locomotive repairs to meet a scheduling system. Curtis.....*433
—Heald grinding machine for cylinders of air-brake pumps .....‡*845
—Heald internal grinding machine No. 72, special .....‡*924
—Heald "Size-matic" internal grinding machine .....‡*377
—Here and there in the "Katy Shops." Curtis *771
—Hisey-Wolf double-slide, angle-plate grinder .....‡*498
—Hutto large-bore grinders *75
—Instructions for grinding twist drills ..*571
—"Keypower" tool grinder .....‡*615
—Modern applications for flat grinding. Curtis *385
—Modern grinding operations at the Otis plant. Curtis *157
—"National Cleveland" gear and cutter-tooth grinder .....‡*613
—Odds and ends of Frisco repairs. Curtis .*709
—Piston-pin methods that are different. Colvin *701
—Portable grinder used on a boring mill. Bailey *30
—Pratt & Whitney hob and cutter grinder .....‡*534
—Pratt & Whitney vertical surface grinders, model B, improved .....‡*375
—Ransom direct-motor-drive grinders ....‡*260
—Reducing costs of cutters and cutter grinding. Hampson 784
—Robertson "Economy" tool grinder, No. 12 .....‡*847
—"Rogers-Buffalo" improved knife grinder motor-driven, type B .....‡*887
—Ross continuous surface grinding machine .....‡*964
—Schuchardt & Schutte automatic hob grinders .....‡*180
—"Sickle" universal cutter and reamer grinder,—erratum automatic.....‡*616
—Some Singer sewing-machine methods...*907
—Stutz milling and boring fixtures. Colvin*631
—Thompson radius grinding attachment..‡*880
—Thompson universal grinder 10x36-inch, improved .....‡*418
—Tooling for a valve guide. Colvin *935
—"United States" grinding machine, heavy-duty .....‡*541
—Warner & Swasey "Roto" pneumatic grinders and drills .....‡*768
—Willys-Knight production methods. Colvin*423
—Winterhoff grinder and disk grinder, No. 2 .....‡*219
Grinding sewing machine shafts on the centerless grinding machine. Densmore.*813
Groove of standardization. Sandman 744
"Grove" indicating gage .....‡*965
Growing use of the air mail 612
Growth of welding. Godfrey 471
Guards for crane trucks, Safety. Wright..*369
Guide for the profiling machine, Multiple. Wright *800

H

"HB" portable air unit .....‡*539
"H-P-M" high pressure and temperature forged steel valve .....‡*333

HACKSAW: See also "Saw."

Hacksaws, Characteristics and use of *763
Hallden rotary wire-straightening and cutting-off machine, automatic .....‡*578
Hammer, "Bates" pneumatic forging ...‡*732
Hammer, Chambersburg smithing .....‡*880
Hammer "comes back," Steam. Snaith . 67
Hammer experience, Air. Ellsworth 508
Hammer, Husky interchangeable soft-tip.‡*377
Hammers "Simbi" electrical .....‡*499
Hand knobs for jigs and fixtures. Waldo . *29
"Hand" reaming by power. Wright.....*606
Handling chilled car wheels in the shop. Hudson *405
Handling locomotive repairs to meet a scheduling system. Curtis *433
Handling problem, Machine design and the. Eldmann *855
Handy case. Scholl *289
Handy squaring tool. Doescher *989
Hanging back. Entropy. 512
Hanna rapid riveter .....‡*617
Hanna turret riveter .....‡*838

HARDENING: See "Heat-Treatment."

Hardening-room practice. Kauffman 757
Hart & Hegeman high-speed automatic tapping machine .....‡*925
"Hartford" automatic production milling machine .....‡*217
"Hartness" high-speed diehead, No. 7-H. ‡770
Heald grinding machine for cylinders of air-brake pumps .....‡*845
Heald internal grinding machine No. 72, special .....‡*924
Heald "Size-matic" internal grinding machine .....‡*377

Page

Heat for the machine shop, Electric. Creasy *865

HEAT-TREATMENT: See also "Hardening," etc.

—Forging rings by the upset process 949
—Johnson heat-treating furnace, No. 700 ..... ‡*540
—Recommended practice for the carburizing and heat-treatment of camshafts 46
Heat-treatment for nickel steels 683, 993
Heat-treatment of die-blocks. Porter, Jr. 950
Heater in wheel manufacture, Electric metal. Irish *21

HEIGHT GAGE: See "Gage."

Helping men earn more money by time-study 454
Here and there in the "Katy Shops." Curtis *771
Higher buffing speds on 25- and 60-cycle current. Herold 634
Hisey - Wolf double - slide, angle-plate grinder ..... ‡*498
"Hi-Tensile" capscrew, Victor *337
Hob-sharpening machine, model FSS-A, "Pfauter" full-automatic ..... ‡*693
Hobart electrical test bench ..... ‡*218
Hobbing, Accuracy and production in gear. Waters *267
Hobbing machine, Selecting lead gears for a. Demkier 270
Hobbing machines, improved, "Pfauter" automatic gear ..... ‡*494
Hoefer automatic piston-drilling machine. ‡*844
Hoefer double-end drilling, boring and reaming machine, special ..... ‡*1001
Hoefer piston-drilling machine ..... ‡*767
Hoefer production piston-drilling machine. ‡*805
Hoist, DU, Ingersoll-Rand "Utility" air-motor ..... ‡*419
Hoist model 20B, Yale & Towne ball bearing electric chain ..... ‡*258
Hoist, Northern "Standart-ized Hi-Lift" electric ..... ‡*769
Hold down for use in cutting off wire. Kendall *644
Holder, Floating reamer. Boeckel *70
Holder for a threading tool, Home-made. West *990
Holder for automatic screw machine, Knurl. Felten *991
Holders for fly cutters. Aulmann *570
Holding chain drives at constant tension. Curtis *823
Holding oversize pistons for turning. Kugler *70
Home-made cam cutting machine. Wright. *448
Home-made device to bore Ford timers-discussion. Dunn *212
Home-made holder for a threading tool. West *990
"Homo" furnace equipment for drawing. ‡*298
Honing machines, types Nos. 214 and 212, Barnes hydraulically-reciprocated ..... ‡*837
Hook for the soda tank, Convenient dipping. Wheeler *914
Hooker ball bearing band and circular-saw sharpener automatic, No. 1 ..... ‡*457
Hooking up to the shop with sales. Godfrey 815
Horsburgh & Scott worm gear speed reducers ..... ‡*691
How a railroad shop manufactures a hundred connecting rods each month, Curtis. *851
How railroad repair shops are equipped .. *587
How shall we designate angles? Hudson.. *798
How to fit shims in bearings—discussion. McVicker *724, McIntosh *992
How to keep drawings clean. Steele *954
How would you do this job?—discussion. Robbins *869, Webster *913, Kiddle *954, White *991
Howell automatic "rotor re-centering" motors ..... ‡*459
Hub re-threader, Stevens wheel puller and. ‡*657
Hunter metal cutoff saw high-speed No. 1-A ..... ‡*657
Hupp cylinders, Fixtures and methods in machining. Colvin *985
Husky interchangeable soft-tip hammer . ‡*377
Husky ratchet and hexagon socket wrenches ..... ‡*336
Hutto large-bore grinders ..... ‡*75
Hyatt lineshaft bearing ..... ‡*655
"Hydroscrew" jack, Watson-Stillman .... ‡*924

I

Immigration—or machinery? 574
Important company representative 416
Improvement Government purchasing 492
Improvised broach. Myers *370
Improvised motor drive for drilling machine. Wright *68
In the back shop *16
Increasing the diameter of a boring mill table. Klick *643
Index of manufacturers 125, 142
Indexing fixture for a press. Widen *28
"Inducto-Therm" relay, Allen-Bradley .. ‡*928
Industrial accidents. Andrews 446
Industrial Americanization and the foreman. Rindge 593
Industrial fuels 202
Industrial swearing 198
Industry and legislation, American. Emery 775
Industry and public policy, American. Emery 659
Industry and taxation, American. Emery . 959
Inertia forces in the Geneva stop and similar mechanisms. Hall *603
Inexpensive and reliable wiggler—discussion. Doescher *252
Inexpensive bending tool — discussion. Harper *169
Ingersoll-Rand "Utility" air-motor hoist, DU ..... ‡*419
Inlaid yard-stick for convenient measuring. Faulhaber 930
Inspecting the policy of a manufacturing plant. Younger 476

INSPECTION: See "Gage."

Inspection, Arc welding practice and. Candy *43
Inspection room in a truck plant *718
Inspection—too much or too little 416
Installment sales 836
Instructions for grinding twist drills *571
Instruction, Standard practice. Atkins.. *23
Insurance, Machine shop fires and 464
Interest of corporations in basic research 836
Internal standards 876
International convention for the protection of industrial property 625
Inventory, Simple method of reducing . 774
Iron, General Electric soldering ..... ‡*498
Iron workers with built-in copers, Buffalo universal ..... ‡*879
Is engineering education too technical?—discussion. Hampson 340, Carroll 362, Entropy 447
Is the peak behind us? 530
Is there a limit to overhead? 374
Is there anything the matter with engineering education? Entropy 972

J

Jack, Watson-Stillman "Hydroscrew" .... ‡*924
"Jagabi" stationary tachometer, type B. ‡*337
Jaws from a plaster model, Making special chuck. Stern *450
"JFS" variable speed transmission, Columbia ..... ‡*920

JIGS and FIXTURES: See also specific kinds of work such as: "Press," "Milling," etc.

—Clamps for jigs and fixtures. *371
—Diamond grinder work-holding fixture. . ‡*76
—Hand knobs for jigs and fixtures. Waldo *29
—Indexing fixture for a press. Widen.... *28
—Milling fixtures for washing-machine parts. Jones *411
—Rotary milling fixture. Sandmann.... *608
—Simple method of clamping. Brown.. *799
—Simple milling fixture for round work. Strama *872
—Special fixtures for milling and boring.. *426
—Stutz milling and boring fixtures..... *631
—V-block designs for jigs and fixtures.. *171
Jigs, "Michigan" quick-clamp ..... ‡*533
Jim and Henry. Entropy 798
Jim comes back. Entropy 894
Jim gets over his head. Entropy 740
Job?—discussion, How would you do this. Robbins *869, Webster *913, Kiddle *954, White *991
Job—discussion, Locating a. Cormack.. 862
Jobs that count in making counters..... *790
John Dick's compound. A'Hearn..... *903
"John" reversing tapping chuck..... ‡*295
Johnson heat-treating furnace, No. 700.. ‡*540
Joints, Victaulic flexible pipe..... ‡*379
Just suppose 74, 174, 216, 256, 454
Just what is overhead? Godfrey 712

K

"Katy Shops," Here and there in the. Curtis *771
Keeping oilstones in condition. Faulhaber 570
Keeping tools in sets. Hall..... *68
Kelly model M cutters and model D reamers ..... ‡*334
Kempsmith vertical maximiller with adjustable spindle ..... ‡*498
Keuffel & Esser "Normograph" ..... ‡*459
"Keypower" tool grinder ..... ‡*615
Keys, Tentative standards for stock taper*816
Kiddle's "Gem Junior" bench lathe..... ‡*38
Knives, Disston inlaid high-speed steel planer ..... ‡692
Knobs for jigs and fixtures, Hand. Waldo *29
Knurl holder for automatic screw machine. Felten *991

L

Labor and scientific management..... 958
Landis portable pipe-threading machine.. ‡*689
Lapointe hydraulic broaching machine, 3-L ..... ‡*654
Lapointe special broaching machine, No.2‡*965
Lapping and boring machine, Moline cylinder ..... ‡*35
Lapping micrometers. Van Keuren *871
Latest metric bill. Hampson..... 670

LATHE: Turret lathe: See also "Screw—Screw machine."

—Boring an oblong hole..... *194
—Boring in a lathe. Stern..... *170
—Boring work in steadyrests. Crawford. *569
—Buying a second-hand lathe. Entropy.. 707
—Carroll & Jamieson motor-drive lathe, 15- and 16-inch ..... ‡*77
—Changes in wheel-lathe design *740
—Device for shifting cone belts. Wright *759
—Foster universal turret lathe, No. 1—R.‡*847
—Gisholt turret lathes, 3L and 4L..... ‡*687
—Kiddle's "Gem Junior" bench lathe.... ‡*38
—LeBlond automatic lathe heavy-duty, No. 16 ..... ‡*493
—Modern tooling methods for turret lathes. Lange..... *143, *199, *235, *271, *323, *357, *399, *427, *477, *517, *547
—"Niles" journal-turning lathe, 90-inch*. ‡*919
—Pratt & Whitney model B lathe, 20-inch ‡*575
—Precision Gauge & Tool Co. "Friction-Less" live center..... ‡*840
—Rahn-Larmon portable engine lathes, 16- and 18-inch, Series A..... ‡*656
—Sebastian motor-driven lathes, type S, improved ..... ‡*733
—Sebastian semi-automatic production lathe, heavy-duty, type B..... ‡*533
—Setting the compound rest. Cole..... 168
—Small diehead adapted to large turret lathe. Weigel *28
—Tapers in lathe spindles..... 585
—Turning small balance wheels in an engine lathe. Wright *951
—Turret lathe in a railroad shop. Franklin *69
—Using a hand reamer in a lathe—discussion. Steele, 290, 682. Shafran.. 488
—Warner & Swasey universal tools for turret lathes ..... ‡*336
—Warner & Swasey universal tools for turret lathes, Nos. 4 and 6..... ‡692
—Warner & Swasey universal turret lathe, heavy-duty, No. 3-A..... ‡*877
—Wickes Bros. semi-automatic crankshaft lathes, 34-inch ..... ‡*531
Lathe adapted to turn radii. Wright.. *722
LeBlond automatic lathe heavy-duty, No. 16 ..... ‡*493
Legislation, American industry and. Emery 775
Lehman oil-groove milling machine..... ‡*997
Let the draftsman see what happens—discussion. Needham 312
Lettering, Triangle altered for. Myers...*980
Liability of employers. Childs..... 592
Liability of manufacturing plant for injury to leased premises. Childs..... 776
Light, Adjusting the drop. Tarr..... *800
Lighting decreases useless work. Good... 918
Lighting increases accuracy, Better..... 686
Limits of accuracy in repetition work—discussion. Applegard, 389. Muirhead.. 948
Lining up work by sound. White..... 934
Littell heavy-duty automatic roll feed.... ‡*337
Local annealing. Moore..... *29
Locating a job—discussion. Cormack.... 862

LOCOMOTIVE: See also "Railroad."

Locomotive repairs to meet a scheduling system, Handling. Curtis *433
Loshbough-Beck inclinable press high-speed No. 3 ..... ‡*539
Louis Allis direct-current motors, type N. A. ..... ‡*297
Lovejoy deep slotting cutter, type F..... ‡*534
Lower turnover to lower costs..... 996

LUBRICANT, CUTTING: See also "Coolant," "Oil," etc.

Lubrication, Bearings and. Godfrey..... 743
Lubrication, Bullard pressure ..... ‡*37
Lute for babbitting bearings—discussion. Fowler, 607. Griggs 992

M

Machine design and the handling problem. Eidmann *855
Machine design for a purpose. Entropy.. 302
Machine shop fires and insurance..... 464
Machine the emblem of progress. Roper... 715
Machinery, Future of export trade in metal-working. Rastall *755
Machinery on the farm..... 650

MACHINERY TRADE: See also "Trade."

Machinist, Pipe dreams of a tramp. Quharity*516
Magazine feeds *322, *407
Magnet, Baker truck with lifting ..... ‡*927
Mainsprings, Releasing new. Allis..... *761
Maintenance of gas-rail cars on the New Haven Railroad *623, *661
Maintenance of motive power on New England railways—discussion. Sneldon.... .....*39, *151, *203, *239, *303, King 800
Maintenance of proper relations between employer and employee. Herr..... 380
Making and keeping all-around mechanics. Godfrey 507
Making engraved rolls of steel and copper. *57, *163
Making multiple patterns in white metal. Hampson *211
Making special chuck jaws from a plaster model. Stern *450
Man in the shop and mathematics—discussion. Goodrich 8, Senior 432, Willis....*669

MANAGEMENT:

—Changing environment of industry. Alexander 944
—Choosing your business partners. Leach. 361
—Division of labor in tool manufacture. Pennock 599
—Experimental work in the shop. Entropy 960
—Factory manager speaks on production control and safety, Irish 735, 785
—Functions of a project engineer in a technical organization. Hardecker *641
—Functions of the time study and methods analyst 729

Page

—Getting the most out of your machine tool dollar. Hartman 1, Brown 183, Westbrook 261, George 381, Graham 697, Sandmann 792, Gleason 809, DeVlieg 920
—Inspecting the policy of a manufacturing plant. Younger 476
—John Dick's compound. A'Heart *903
—Maintenance of proper relations between employer and employee. Herr 380
—Mobilization plans of the Bridgeport Ordnance District *223
—Problems and functions of a safety engineer. Monroe *197
—Production hindrance and a remedy Entropy 585
—Putting responsibility up to each department. Colvin *543
—Recording air-pump repairs. Feltner ... *944
—Reducing costs of cutters and cutter grinding. Hampson 784
—Standard practice instructions. Atkins .. *23
—Thrift—To the last man in industry. Rindge *65
—Training factory foremen. Fulton 421
—Works engineer's position in industry. Corwin 4
Management, New fields for modern. Clark . *285
Manager's handicap *410

MANDREL: See also "Arbor":

"Mann" master controller for electric arc welders ..... ‡*921
Manning, Maxwell & Moore, Inc., to manufacture Detrick & Harvey products ... ‡579
Manufacturing plant for injury to leased premises, Liability of. Childs 776

MARKETS: See also "Trade":

Marking machine, Noble & Westbrook strip-stock ..... ‡*258
Material specifications. Hardecker 520
Materials used in electrical machine design. Wood 17
Mathematical analysis of the Geneva movement. Seybold *793
Mathematics—discussion. Man in the shop and, Goodrich 8, Senior 432, Willis ... *669
Maximiller with adjustable spindle, Kempsmith vertical ..... ‡*498
Maxwell drilling and boring tools—correction ..... ‡*655, 696
Measurement of cutting temperatures—discussion. Herbert *281, *307, 310, *363

MEASURING DEVICES: See "Gage."

MECHANICAL ENGINEERS: See "Engineers," also "News Section."

Metal work industries—discussion, Attracting men to the. Harlow 504
Meter, type PD, General Electric demand .. ‡*532
Meter type RA, Westinghouse three-element demand ..... ‡*962
Method of finding lead gears—discussion. Haverstick 244
Method of indicating go and not go ends of gages. Bach *210
Methods—who starts them. Meadowcroft . 721
Metric bill, latest. Hampson 670
Metric question again 612
Metric system? Shall we adopt the. Halsey 508
"Michigan" quick-clamp jigs ..... ‡*533
Micrometer, "White" compression-loss ... ‡*962
Micrometers, Lapping. Van Keuren *871
Microscope, Pittsburgh illuminated Brinell . ‡*880
Microscope, Société Genevoise measuring . *177
"Midget" high-vacuum pump, Eisler ..... ‡*657
Milburn oil burner and preheater ..... ‡*35
Milburn welding torch type J-Jr ..... ‡*708
Mill, Reisinger adjustable hollow ..... ‡*840
Mill, 32-foot, "Betts" vertical boring ..... ‡*296
Millers Falls electric drill ..... ‡*879

MILLING: See also "Jigs and Fixtures."

—Adjustable spacing collars for milling cutters. Rogers *252
—Angular turning on a milling machine—discussion. Kugler ..... *168, Steele 289
—Brown & Sharpe automatic duplex milling machine, No. 37 ..... ‡*496
—Building a large boring mill in Canada .. *588
—Connecting rods in the Stutz shop. Colvin *781
—Cylinder heads of the new Stutz "Eight." Colvin *671
—Details of machining operations in a British railway shop. Chubb *737
—Finishing opposite sides of valve plates by continuous rotary milling. Erwin, Jr. *831
—Fixture for holding tubes. Kendall *412
—Fixture for milling steering-column nuts. Erwin, Jr. *989
—Fixtures for machining oil-pump bodies. Colvin *753
—Fixtures that can be used in many shops. Hudson *893
—Handling locomotive repairs to meet a scheduling system. Curtis *433
—"Hartford" automatic production milling machine ..... ‡*217
—Lehmann oil-groove milling machine .... ‡*997
—"Milwaukee" milling machine, No. 4B .. ‡*881
—"Ohio" improved milling machines .... ‡*807
—Rockford "Rigidmil" vertical milling attachment and power-feed rotary table ‡*696
—Rotary milling fixture. Sandmann *603
—Rough and finish milling cylinder blocks at one pass. Hudson *799
—Simple dividing head. Homewood *723
—Sizes of standard milling cutters (simplified practice) 31, 71
—Some Singer sewing-machine methods *907
—Some unusual milling operations on sewing machine parts. Densmore *537
—Special fixtures for milling and boring .. *426
—Stevens, Inc., John B., purchases Garvin milling machines ..... ‡420
—Stutz milling and boring fixtures, Colvin. *631
—Thurston chuck and double-end mill .... ‡*178
—Tool for hollow milling and facing, Freeman *290
—Tooling for a valve guide, Colvin *935
—"Whitcomb-Damerell" combination shaper and milling machine ..... ‡*939
—Wider use of milling machines in the railroad shop *469
—Willys-Knight production methods. Colvin .... *147, *191, *229, *263, *313, ... *461
Milling fixtures for washing-machine parts. Jones *411
Milling machines handle wide range of product *675
Milling two jobs at once. French *723
Mills spiral cut, Union two-lip end ..... ‡*76
"Milwaukee" milling machine, No. 4B .... ‡*881
Mitchell automatic strip polishing machine ‡*1002
Mixture for babbitting bearings. Huff ... 760
Mobilization plans of the Bridgeport Ordnance District, Franklin *223
Modern applications of disk grinding. Curtis *385
Modern cranes in and out of the shop *320, *408
Modern grinding operations at the Otis plant. Curtis *157
Modern Machine Tool Co. combination drill table and vise ..... ‡*734
Modern plant for building planers *505
Modern tooling methods for turret lathes. Lange .... *143, *199, *235, *271, *323, *357, *399, *427, *477, *517, *547.

MOLDING: See also "Foundry," "Pattern," etc.

Moline cylinder-lapping and boring machine. ‡*35
Monitor thermoload starter ..... ‡*38
Monopolies 74
More interest in apprentice training 609
Morse taper-pin reamer 3-flute ..... ‡*653
Morse Twist Drill & Machine Co. forged drills ..... ‡36

MOTOR: See "Electric," "Engine," "Automotive," "Airplane."

Motor drive, General Electric back-geared induction ..... ‡*1003
Motors, Cardboard templets of, Darling *30
Motors, General Electric synchronous ..... ‡339
Motors, Howell automatic "rotor re-centering" ..... ‡*459
Motors, type N. A., Louis Allis direct-current ..... ‡*297
Multiple guide for the profiling machine. Wright *800
Multiple-operation press tool—discussion. Strama *251, Ferber 646, White 708
Murchey revolving diehead, type O, improved ..... ‡*218
Museum of Engineering and Industry, National. Thwing 64
Museum of the peaceful arts 918

N

"Namco" self-opening diehead, style R... ‡*179
"National Cleveland" gear and cutter-tooth grinder ..... ‡*613
"National-Cleveland" tooth form tester .. ‡*495
National high-duty forging machine ..... ‡*257
National Museum of Engineering and Industry. Thwing 64
National semi-hot, automatic-feed, bolt-heading machines, ⅝- and ⅞-inch . ‡*841, 886
Naylor spiral lock-seam pipe ..... ‡*880
New England railways, Maintenance of motive power on. Sheldon .... *39, *151, *203, *239, *303. King 800
New fields for modern management. Clark. *285
New Haven railroad, Maintenance of gas-rail cars on the *623, *661
"Newton" side-head crank planer ..... ‡*577
Nicked hacksaw blades—discussion. Rogers *30, Silvester 799
"Niles" 48-in. car wheel boring machine ‡*849
"Niles" journal-turning lathe, 90-inch ... ‡*919
"Niles" wheel-quartering machine, 90-inch. ‡*884
1925 inventory of machine tools in the class-I railroad shops 699
Noble & Westbrook level-graduating machine ..... ‡*38
Noble & Westbrook strip-stock marking machine ..... ‡*258
Non-partisan tax bill 374
"Normograph," Keuffel & Esser ..... ‡*459
Northern-"Standart-ized Hi-Lift" electric hoist ..... ‡*769
Nugent oil filters ..... ‡*576
Nugent sight-feed valve ..... ‡*615
Numbering screw-machine parts. Scheil .. *251
Nuts, Fixture for milling steering-column. Erwin, Jr. *989

O

OBITUARIES:

—Albright, Henry F. 808f
—Baker, Charles H. 142d
—Barnes, C. F. 618f
—Barrett, James O. 580f
—Bausch, John Jacob 298f
—Bebb, Richard E. 78e
—Berg, Per Thorsten 808f
—Bird, William Warren 222d
—Blaser, Alexander 580f
—Bohrer, Walter 298f
—Bowers, Alphonzo B. 182e
—Brady, Daniel M. 380i
—Broden, Albert 182e
—Bush, Arthur R. 222d
—Campbell, Andrew C. 380i
—Carleton, John W. 500e
—Champney, William P. 260g
—Cheney, Herbert W. 580f
—Clark, George T. 580f
—Colt, Charles H. 770h
—Coolidge, Frank H. 966g
—Dalton, James L. 142d
—Dawson, Auras G. 580f
—Duerr, J. W. 380i
—Duncan, James 142d
—Edenborn, William 808f
—Ehrmann, George A. 260g
—Ewing, John T. 420d
—Fletcher, Edward C. 182e
—Geddes, James L. 78e
—Giles, Charles E. 770h
—Greene, Frank E. 770h
—Haiss, George 222d
—Hall, Keppele 696f
—Hand, Ora P. 580f
—Hayhurst, Richard Henry 966g
—Hendey, Arthur 500e
—Henney, John 420d
—Herbrecht, John J. 78e
—Hess, Luther 340f
—Hides, Horace C. 580f
—Hillmann, Gustav F. C. 500e
—Hoadley, Horace G. 888g
—Hobson, Robert 380i
—Hoffman, Richard Curzon 222d
—House, Francis E. 618f
—Huddleston, G. W. 38g
—Hughson, Charles E. 78e
—Hungerford, Uri T. 1004g
—Huston, Paul B. 888g
—Jacobs, Felix A. 420d
—Jewar, Joseph F. 696f
—Johnson, Claude 696f
—Keck, Lewis G. 770h
—Kellner, Dr. Herman L. 222d
—Kiehler, Frederick 380i
—Kirby, Jr., John 38g
—Latham, Ellis C. 618f
—Latty, Samuel D. 260g
—Lawson, Stanley M. 1004g
—Lemoine, Louis R. 696f
—Ling, John T. 142d
—Lockwood, Henry 298f
—Lozier, Jr., Henry A. 38g
—Manny, Walter B. 380i
—Massey, Chester D. 966g
—Matthews, Charles 888g
—McFaddin, Stanley 420d
—McFarlan, Charles E. 78e
—McGregor, Hugh 500d
—McGregor, James E. 142d
—McKinnie, Allen Chambers 500e
—McKnight, Charles 260g
—Miller, Carter 182e
—Mills, Frank Sherman 658h
—Mills, William J. 380i
—Milner, J. L. 808f
—Moore, Lycurgus B. 542f
—Murphy, Dr. Martin 142d
—Myers, Samuel R. 340f
—Nedoma, Charles L. 38g
—Nevin, A. Parker 260g
—Norris, Henry M., dies suddenly *38f
—Norris, Richard 1004g
—Parker, Burton 696f
—Pedrick, D. W. 580f
—Pickard, Thomas D. 888g
—Pike, Edward B. 340f
—Riley, Robert Sanford 808f
—Robbins, Clarence C. 542f
—Roberts, George W. 182e
—Rothen, William 142d
—Rowland, Charles Leonard 696f
—Rushton, Robert E. 380i
—Ryan, Robert J. 696f
—Sanford, Francis Curtis 696f
—Seelig, Augustus B. 1004g
—Shilling, William W. 542f
—Smith, Ernest W. 658h
—Smith, Everett B. 222d
—Storm, R. A. 142d
—Tench, William E. 500e
—Thedieck, I. H., Dead at Sidney 182e
—Tobin, John A., Lieut. 340f
—Tollerton, William J. 420d
—Tuttle, Wallace W. 658h
—Twitchell, C. E. 38g
—Victor, Royall 1004g
—Walker, Major Albert F. *696f
—Ward, T. W. 340f
—Watt, James W. 658h
—Wellman, Walter M. 222d
—Wells, William S. 808f
—Whaling, Thomas G. 420d
—Wigglesworth, Helen G. 142d
—Wissler, Adolph 142d
—Witham, Harry E. 658h
—Wolfe, Charles A. 260g
—Wood, George E. 78e
—Wright, George M. 142d
—Wrigley, Thomas 770h
Odd jobs in a Chicago railway shop. Curtis *563
Odds and ends of Frisco repairs. Curtis. *709
Office, Convenient location of a factory. Wright *831
Office in the machine shop, Portable. Geiger *954
"Ohio" improved milling machines ..... ‡*807

Page

Oil and repairs—discussion. Wright.... 437
Oil can, Tradition and the. Godfrey..... 598
Oil, Progress in methods of storing.....•910
Oilgear hydraulic press, 200-ton.....‡•1003
Oil-pump bodies, Fixtures for machining. Colvin .....•753
Oilstones in condition, Keeping. Faulhaber 570
Old Army and Navy ideas still rule..... 650
Olsen brake-beam testing machine.....‡•695
Olsen direct motor-driven, hydraulic, Brinell hardness-testing machines, production type, Nos. 1 and 2.....‡•457
Olsen locomotive and car spring testing machine .....‡•839
Olsen-Lundgren vertical balancing machine, No. 3 .....‡•417
Olsen universal testing machine automatic and autographic.....‡•652
On selling machinery 332
Operations in building winding machinery .....•14
Opportunities that lie ahead..... 574
Optical methods, Accurate angles by. Hudson .....•601
Ordway toolmakers' gage.....‡•838
Oster electric die-stock .....‡•693
Oster power pipe threader, portable.....‡•419
Otis plant, Modern grinding operations at the. Curtis .....•157
Oven, Skinner revolving-door .....‡•37
Overhead? Just what is. Godfrey..... 712
Overshot forming tool. Downs .....•912
Oxy-acetylene welding of copper. Miller..•639

P

Pacific Coast railroad-shop methods. Stanley.•971
Packing nuts, Tool to face seats on. Masters .....•38
Paint-discussion, Aluminum. Andrews..... 228
Panel, two-speed, General Electric Control..‡733
Panelboard, Westinghouse industrial switch‡•297
Parker "Big Bear" vise.....‡•654
Parting-tool attachment. Kendall.....•526
Partners, Choosing your business. Leach.. 361
Parts-washing machine improved. "Autosan" .....‡•1000
Patterns in white metal, Making multiple. Hampson .....•211
Pellow "Duplex" nut-slotting machine..‡•1004
Permanent machine tool exhibit. Roe..... 889
Perry tilting idler-pulley stand.....‡•499
"Pfauter" automatic gear hobbing machines, improved .....‡•494
"Pfauter" full-automatic hob-sharpening machine, model FSS-A.....‡•693
Photographic shop records..... 454
Photographs for drafting records—discussion. Hardecker, 383, Guyler..... 940
Pinion on a slotter, Cutting a. Waldo.....•369
Pinion puller, Duff .....‡•1003
Pins, Strength of taper. Schell.....•914
Pipe dreams of a tramp machinist. Quharity .....•516
Pipe, Naylor spiral lock-seam .....‡•880
Pipe, Simple fixture for flaring. Hudson..•953
Pipe threader, portable, Oster power.....‡•419
Pipe-threading machine, Landis portable..‡•689
Pipe-threading machine, single-end, Davis "Rotomatic" .....‡•538
Pipe unions, Production of cold-drawn hot-pressed, Knoll .....•565
Piston-drilling machine, Hoefer .....‡•767
Piston-drilling machine, Hoefer automatic ‡•844
Piston-drilling machine, Hoefer production .....‡•805
Piston methods in the Rickenbacker shop. Colvin .....•581
Piston-pin methods that are different. Colvin .....•701
Pistons for turning, Holding oversize. Kugler •70
Pittsburgh illuminated Brinell microscope..‡•880
Planer, "Newton" side-head crank .....‡•577
Planer 36x36-inch, Woodward & Powell crank .....‡•221
Planers, Modern plant for building.....•505
Planing a tapered hole. Stewart.....•487
Plant, Rejuvenating a historic.....•981
Plates by continuous rotary milling, Finishing opposite sides of valve. Erwin, Jr..•831
Plates for holding abrasive cloth, Cast-iron. Hampson .....•606
Plates, Straightening cold-rolled. Fowler..•870
Plight of industrial designs. Myers....704,728
Pneumatic stock feed for multi-spindle automatics. Lincoln .....•607
Polishing machine, Divine Brothers automatic .....‡•925
Polishing machine, Mitchell automatic strip .....‡•1002
Portable cleaning tank. Wilmarth .....•449
Portable grinder used on a boring mill. Bailey .....•30
Portable office in the machine shop. Geiger.•954
Possible unification of American and British screw thread systems 196
Post on a shop floor, Traffic. Wright...•911
Pot portable, Trent electrical melting....‡•928
Potter & Johnston special automatics for brake drums .....‡•843
Pouring babbitt-metal bearings. Allen.... 722
Power factor correction Economy due to. Dittenhofer 243

PRACTICAL SHOP PROBLEMS:

—Action and use of the hydraulic prefiller 72
—Alloy for babbitt hammers..... 648
—Aluminum soldering..... 726
—Annealing small castings 372
—Arc welding in the shop..... 726
—Basis for fitting parts..... 874
—Bearing greases in collapsible tubes.... 172
—Blanking with a minimum of scrap.... 372
—Bluing steel parts—discussion 610, Parker 994

Page

—Boring bar chatters..... 528
—Boring glass bottles..... 684
—Breaking high-carbon bars instead of cutting them 32
—Castings for dies and tools 764
—Chattering of milling cutters..... 726
—Checking the line shaft losses..... 330
—Connecting an hydraulic accumulator... 414
—Constant slippage on a disk clutch.... 452
—Conveyor belt made of wire..... 610
—Cutting cast iron with the torch..... 648
—Cutting lubricant for corrugating rolls.. 214
—Cutting thick steel sections with the gas torch 292
—Dangerous alterations on pneumatic hammers—discussion 292, Zimmermann.. 520
—Data table on pipe bending 172
—Designing a modern machine shop..... 684
—Designing wire coil springs..... 648
—Die casting in the shop..... 764
—Discoloration of polished machine tool parts 72
—Draftsman and the shop 414
—Efficiency work in the shop..... 834
—Eliminating the inefficient press-clutch control 32
—Epicyclic gearing 172
—Equipment operated by engine suction.. 330
—Erecting shafting 726
—Etching aluminum 834
—Extreme accuracy in the shop..... 490
—Factor of safety in spring design..... 214
—Fitting a spherical surface..... 994
—Gear ratio calculation 956
—Glazing of grinding wheels..... 956
—Grinding steel tubing 572
—Hardening large steel disks..... 648
—Heat treating small parts in quantity... 572
—Heated air for oil burners..... 452
—Heating tools in the lead bath..... 956
—Helping the workers and production by group payment 72
—Home-made metallic packing 528
—Inspection pitfall — discussion 32, Doescher 432
—Installing roller bearings..... 764
—Keeping a belt on the pulley..... 726
—Length of belt 528
—Limit to speed reduction on press flywheels 330
—Lining a large cylinder 834
—Loss of air pressure—discussion 874, Wicks 994
—Low fusing brazing wire..... 648
—Lubricant for blanking silicon steel.... 254
—Lubricating sliding surfaces..... 490
—Machining cylinder cams..... 610
—Machining manganese steel 610
—Maintenance for production..... 414
—Making duplicate tracings..... 916
—Making steel wool 648
—Manufacturing in the jobbing shop..... 834
—Milling a long rack..... 916
—Most economical grade of hydraulic gasket 214
—Nickel in cast iron..... 684
—Non-rusting steels 916
—Organizing a manufacturing company.. 254
—Overhauling worm gear drive..... 528
—Pipe tap sizes to thread a straight hole 254
—Pipe welding with thermit..... 292
—Planed machine bases..... 490
—Pneumatic chucks..... 726
—Preserving plated parts in stores..... 916
—Preserving shop drawings..... 684
—Production in heat-treating 802
—Push button valves in the machine shop 214
—Reaming aluminum die castings..... 726
—Recasting aluminum..... 994
—Recommending screw threads..... 802
—Reforging scrap steel 684
—Repairing aluminum match plates..... 372
—Replacing a loose crankpin..... 372
—Re-rolling boiler flues 490
—Returning tools to the storeroom—discussion 802, Willis 874
—Setting spirit-level glasses..... 372
—Shifting from contract work to manufacturing 572
—Shrinking a cylinder on a brass lining—discussion 172, Kiddle •525, Uhreg 608, A'Hearn 645
—Size of tube for a given thread..... 956
—Sizes of machine tools 764
—Speeds and feeds for cutting keyways.. 254
—Spline shaft design..... 254
—Steel tank for sulphuric acid storage.. 452
—Strength of an aluminum gear..... 330
—Studying the use of high-speed cutting tools 292
—Technical literature up to date..... 452
—To prevent lead sticking to steel in a lead bath 32
—Tolerances in drilled holes..... 610
—Tool for roll finishing piston rods..... 452
—Torch cutting copper and lead..... 528
—Use of a magnet in hardening toolsteel.. 172
—Using a hand reamer in a lathe..... 72
—Using scrap in the cupola 874
—Varying strength in a cast-iron section.. 214
—Welding electrode quality..... 72
—Welding with thermit 802
—Wood block floors in the shop..... 956
Pratt & Whitney hob and cutter grinder..‡•534
Pratt & Whitney model B lathe, 20-inch..‡•575
Pratt & Whitney vertical surface grinders, model B, improved.....‡•375
Precision Gauge & Tool Co. "Friction-Less" live center .....‡•840

PRESS: See also "blanking," die, "screw," etc.

—American hydraulic bench broach press..‡•77
—American hydraulic broaching press type V-18 .....‡•179
—Conveniences of some old machines. Forbes 670
—Drawn shells reduce machining costs. Sheldon .....•741

Page

—Economy in press tool design, Irish •619, •665
—Examples of press tool design for typewriter parts, Irish .....•825
—Filing machine improvised from a sensitive drill press. Kugler.....•169
—Improvised broach. Myers.....•370
—Loshbough-Beck inclinable press high-speed No. 3 .....‡•539
—Multiple-operation press tool—discussion. Strama •251, Ferber 646, White.... 708
—Oilgear hydraulic press, 200-ton.....‡•1003
—Production of cold-drawn hot-pressed pipe unions, Knoll .....•565
—Self-releasing drift for small drill presses. Moore .....•951
—Some multiple-operation press tools. Irish .....•187
—Standardized die sets for punch-press work. Colvin .....•245
Press, Baum's bench lever .....‡•926
Press, Indexing fixture for a. Widen.....•28
Press-fits, Effect of lubricant on taper....•365
Press tool design of the American Multigraph Company. Irish .....•47
Pressing in and reaming piston bushings. French .....•990
Pressure-equalling device. Schell .....•168
Pressure vs. gravity die-casting. Mortimer. 713
Prevention of loose babbit metal linings. Allen 911
Price and quality 728
Principal developments in shop equipment 79
Problem, Winning solutions of the third prize .....•473
Problems and functions of a safety engineer. Monroe .....•197
Production control and safety, Factory manager speaks on. Irish.....735, 785
Production hindrance and a remedy. Entropy 585
Production in gear hobbing, Accuracy and. Waters .....•267
Production methods, Willys-Knight, Colvin •147, •191, •229, •263, •313, •423, •461, •513, •551
Production of cold-drawn hot-pressed pipe unions, Knoll .....•565
Production on machine tool design, Effect of mass, Pletz 854
Production, Sales vs. Stuart 756
Production—Sell by the pound, Buy for, Roper 394
Pro-ducto-matic, Bilton two-spindle ....‡•36
Profiling fixture—discussion, Convenient. Gregory .....•169
Progress in methods of storing oil .....•910
Progress or die 650
Progress photographs 766
Propeller, Award for Reed 344
Proper analysis results in both accuracy and cheapness, Gardiner.....•487
Properties of alloy steels 873
Property, International convention for the protection of industrial 625
Protecting the edge of cutting tools, Williams 186
Psychology on the rush job, Homewood 721
Pulley stand, Perry tilting idler .....‡•499
Pump, Eisler combination vacuum .....‡•963
Pump, Eisler "Midget" high-vacuum.....‡•657
Pump, Goulds centrifugal coolant .....‡•842
Pump repairs, Recording air, Feltner ...•944
Pump reversible, model BL belt-driven, Ruthman "Gusher" .....‡•537
Pumps, Heald grinding machine for cylinders of air-brake .....‡•845

PUNCH: See also "Press."

Punching machine heavy-duty, Cleveland open-gap .....‡•921
"Put it in my envelope." Kinnison ... 868
Putting responsibility up to each department, Colvin .....•543
Pyrometers, "Tycos" high-resistance ....‡•176

Q

Quick-operating jig clamps. Francis.....•872

R

RADIAL DRILLING MACHINE: See "Drilling."

Rahn-Larmon portable engine lathes, 16- and 18-inch, Series A.....‡•656

RAILROADS: See also "Locomotives."

—Air-operated flue cutter, Feltner.....•952
—Air-operated vise .....•327
—Air tools prominent at K.C.S. shops, Curtis .....•899
—Betts locomotive-frame slotting machine ‡•259
—Crankpin design for electric locomotives—discussion, Burby, •287, Wood.... 316
—Cutting a pinion on a slotter, Waldo..•369
—Details of machining operations in a British railway shop, Chubb.....•737
—Driving box practice at the C. & N. W. shops, Curtis .....•501
—Duff pinion puller .....‡•1003
—Electric heater for gasket rings, Hudson •682
—Financing railroad shop equipment..... 416
—Finishing roller, Reibel .....•759
—Fixture for machining shoes and wedges, Hahn .....•991
—Forge work in a railroad shop, Stanley .....•5
—Handling chilled car wheels in the shop, Hudson .....•405
—Handling locomotive repairs to meet a scheduling system, Curtis .....•433

—Here and there in the "Katy Shops." Curtis ..... Page *771
—How a railroad shop manufactures a hundred connecting rods each month. Curtis *851
—How railroad repair shops are equipped. *587
—In the back shop *16
—Maintenance of gas-rail cars on the New Haven railroad *623, *661
—Maintenance of motive power on New England railways—discussion. Sheldon, *39, *151, *203, *239, *303, King 800
—1925 inventory of machine tools in the class-I railroad shops 699
—Odd jobs in a Chicago railway shop. Curtis *563
—Odds and ends of Frisco repairs. Curtis *709
—Olsen locomotive and car spring testing machine ..... ‡*839
—Pacific Coast railroad-shop methods. Stanley *971
—Rattler for cleaning locomotive flues. Rich *328
—Real service work is appreciated. Williams 368
—Reclamation on the Santa Fe. Graham 600
—Recording air-pump repairs. Feltner... *944
—Reducing the dead weight per passenger—discussion. Andrews 190
—Regrinding cast-iron car wheels. Adams 274
—Repairing locomotive driving boxes. Wright *212
—Ryerson inclined rail drill..... ‡*696
—Scheduling locomotive repairs at the Silvis shops of the C.R.I. & P. Ry. Curtis *341
—Spotting idle machines 504
—Standardization of locomotive reamers.. *155
—Standardizing locomotive repairs. Hillman 663
—Tool for reseating pop valves. Hudson. *412
—Trying out solid-end main rods on old locomotives. Hudson *328
—Turret lathe in a railroad shop. Franklin *69
—Two new oil-electric locomotives in operation *20
—Valve-seating device—discussion. Reibel, *450. Fiedler 702
—Welding and air equipment in the Danville shops. Curtis *941
—Welding reduced the junk pile—discussion. Andrews 545
—Wider use of milling machines in the railroad shop *469
Railroad repair shop equipment..... 612
Railroads and union-management co-operation 294
Ransom direct-motor-drive grinders..... ‡*260
Rattler for cleaning locomotive flues. Rich *328
Real service work is appreciated. Williams 368
Reamer, and countersink, Brubaker combined drill ..... ‡*998
Reamer in a lathe—discussion, Using a hand. Steele, 290, 682. Shafran.... 488
Reamer 3-flute, Morse taper-pin..... ‡*653
Reamer, Watervliet spiral king-bolt hole.. ‡*297
Reamers, Kelly model M cutters and model D ..... ‡*334
Reamers, Standardization of locomotive... *155
Reamers, types 10 and 11, Wetmore adjustable ..... ‡*839
Reamers with interchangeable blades, Adjustable. Freeman *488
Reaming by power, "Hand." Wright..... *606
Reaming machine, special, Hoefer double-end drilling, boring and..... ‡*1001
"Reamo" piston and connecting-rod reaming machine, Van Norman..... ‡*1004
Reason vs. threats—discussion. Stewart, 700. Homewood 943
Reclamation on the Santa Fe. Graham... 600
Recommended practice for the carburizing and heat-treatment of camshafts..... 46
Recording air-pump repairs. Feltner..... *944
Records show steady increase in sales of closed cars 712
Reducing costs of cutters and cutter grinding. Hampson 784
Reducing lost time accidents. DeHart..... *967
Reducing the dead weight per passenger—discussion. Andrews 190
Reducing tube-piercing costs. Scholl..... *952
Reed ball bearing sensitive drilling machines ..... ‡*182
Reed propeller, Award 344
Reference-book sheet..... 31, 71 *171, 213, *253, 291, *329, *371, 413, 451, 489, *527, *571, 609, 683, *725, *763, *801, 833, 873, *915, 955, 993
References and state salary required, Give. Wright 384
"Rego" fire stopper..... ‡*218
Regrinding cast-iron car wheels. Adams.. 274
Reisinger adjustable hollow mill..... ‡*840
Rejuvenating a historical plant..... *981
Relation of load to wear on gear teeth—discussion. Buckingham *777, 969
Relay, Allen-Bradley "Inducto-Therm"....‡*928
Relay, improved, General Electric overload ..... ‡*770
Releasing new mainsprings. Allis..... *761
Reminiscences of an old timer. Strong... 758
Removing a battered toolpost screw—discussion. Myers *290
Removing chips from drilled holes. Faulhaber 679
Repair-parts list. Morris 20
Repairing locomotive driving boxes. Wright *212
Research projects of the A.S.M.E..... 605
Resigning—discussion, Art of. Needham.. 348
Resist for solder. Aulmann *327
Rest, Setting the compound. Cole..... 168
Retaining clip for a scale. Blair..... *570

REVIEW: Semi-annual of Shop Equipment:
—Contents of the review pages.....80, 130
—Index of manufacturers 125, 142
—Principal developments in shop equipment 79
Rewarding employees for acceptable suggestions. Franklin 898
Rickenbacker engines, Rods for. Colvin..*395
Rickenbacker shop, Piston methods in the. Colvin *581
Riehlé universal, vertical-screw power testing machine..... ‡*770
"Rigidmil" special, Rockford double-spindle ..... ‡*1000
"Rigidmil" vertical milling attachment and power-feed rotary table, Rockford..... ‡*696
Rings by the upset process, Forging. Kielman 949
Rings, Electric heater for gasket. Hudson *682
Rings, Straightening snap. Alexander.... *913
Rivet drilling machine, Farrel automatic.. ‡*540
Riveter, Hanna rapid..... ‡*617
Riveter, Hanna turret..... ‡*838
Riveting sheet metals, Soldering, brazing and. Eyles *443, *483, *521
Robertson "Economy" tool grinder, No. 12 ..... ‡*847
Robertson sensitive drilling machine..... ‡*769
Rockford double-spindle "Rigidmil" special ..... ‡*1000
Rockford pine-flange facing machine..... ‡*806
Rockford "Rigidmil" vertical milling attachment and power-feed rotary table..... ‡*696
Rockford universal open side shapers 26- and 36-inch ..... ‡*961
Rods for Rickenbacker engines. Colvin... *395
Rods on old locomotives, Trying out solid-end main. Hudson *328
Rods, Turnover jig for small connecting. Rolfe *762
"Rogers-Buffalo" circular saw sharpener, automatic ..... ‡*580
"Rogers-Buffalo" improved knife grinder motor-driven, type B..... ‡*887
Roll, No. 1, Buffalo horizontal bending.. ‡*378
Roller, Finishing. Reibel *759
Rolls of steel and copper, Making engraved *57, *163
Ross continuous surface grinding machine. ‡*964
Rotary milling fixture. Sandmann..... *608
"Rotomatic" pipe-threading machine, single-end. Davis ..... ‡*538
Rough and finish milling cylinder blocks at one pass. Hudson..... *799
Rule—discussion, Wanted—A time-saving steel. Wright 249
Ruthman "Gusher" pump reversible, model BL belt-driven ..... ‡*537
Ryerson inclined rail drill..... ‡*396
Ryerson portable corrugated-sheet shear..‡*963

S

S.A.E. proposes unification of wire gages.. 266
S.A.E. steels (chemical composition)..... 291

SAFETY:
—"Acme" nonshatterable eye shield....‡*927
—Factory manager speaks on production control and safety. Irish 735, 785
—Industrial accidents. Andrews 446
—Industrial Americanization and the foreman. Rindge 593
—Problems and functions of a safety engineer. Monroe *197
—Reducing lost time accidents. DeHart..*967
—Ten safety hints 422
Safety appliances. Havens *830
Safety guards for crane trucks. Wright..*369
Salary required, Give references state. Wright 384
Salesmen know their product? Do. Gerry. 360
Salesmen who know get orders 454
Salesmen who knew their product-discussion. Faulhaber 524
Sales vs. production. Stuart 756
Santa Fe, Reclamation on the. Graham.. 600
Saving checking time on large drawings. Hardecker 751
Saw and arbor universal, No. 1, Winterhoff ..... ‡*37
Saw high-speed No. 1-A, Hunter metal cut-off ..... ‡*657
Saw, No. 4, Atkins metal-cutting band.. ‡*998
Saw, Wallace portable universal ..... ‡*655
Scale—discussion, Wanted—A time-saving. Duchesne *242. Hampson 744
Scheduling locomotive repairs at the Silvis shops of the C.R.I. & P. Ry. Curtis..*341
Schuchardt & Schutte automatic hob grinders ..... ‡*180
Scleroscope, Shore improved direct-reading‡*769

SCREW:
—Screw Machine: See also "Lathe—Turret." Including taps, threads and like subjects involving screws or threads.
—Adjustable stop for the screw machine. Myers *951
—Broaching tool for the screw machine. Herbes *679
—Casehardening screw-machine cams. Kopsch *912
—Cleveland automatic lead-screw control.‡*182
—End-stamping tool for automatic screw machines. Simon *69
—Knurl holder for automatic screw machine. Felten *991
—Limits of accuracy in repetition work—discussion. Applegard 389, Muirhead. 948
—"Namco" self-opening diehead, style B.‡*179
—Numbering screw-machine parts. Schell*251
—Parting-tool attachment. Kendall *526
—Possible unification of American and British screw thread systems 196
—Removing a battered toolpost screw—discussion. Myers *290
—Riehlé universal, vertical-screw power testing machine ..... ‡*770
—Secondary operations on parts produced by the automatic screw machine. Applegard *467
—Simple method of reducing inventory.. 774
—Special screw machine set-up. Boll *29
—Standard thread gages. Githens 760
—Victor "Hi-Tensile" capscrew ..... ‡337
—Weight of brass stock for screw machine parts 955
Screw conveyor and its manufacture. Wright *931, 977
Sebastian motor-driven lathes, type S, improved ..... ‡*733
Sebastian semi-automatic production lathe, heavy-duty, type B ..... ‡*533
Secondary operations on parts produced by the automatic screw machine. Applegard*467
Seen and heard—discussion. Godfrey 27, 155, 167, 311, 356, 431, 471, 507, 598, 712, 743, 815, 934, 970, Irvine 45, Senior 394, Fraser 674
Selecting lead gears for a hobbing machine. Demkier 270
Selecting tap drills—discussion. Johnson 681, Myers 832
Self-centering test button. Wheatcroft.. *913
Self-releasing drift for small drill presses. Moore *951
Selling of machinery, Ethics and the. Godfrey 27
Selling old machines for scrap 294
Sensitive tapholder. Wilhelm *990
Setting the compound rest. Cole 168
Setting the hood chafing-strip. Hudson.. *992
Sewing machine parts, Some unusual milling operations on. Densmore *937
Shafts on the centerless grinding machine, Grinding sewing machine. Densmore ...*813
Shall the tail wag the dog? 492
Shall the work or the machine tool be moved? *908
Shall we adopt the metric system? Halsey 508
Shaper and milling machine, "Whitcomb-Damerell" combination ..... ‡*339
Shapers, improved, Gould & Eberhardt.. ‡*848
Shapers 26- and 36-inch, Rockford universal open side ..... ‡*961
Sharpener automatic, No. 1, Hooker ball bearing band and circular-saw ..... ‡*457
Sharpener, automatic, "Rogers-Buffalo" circular saw ..... ‡*580
Shear, Ryerson portable corrugated-sheet.‡*963
Shear, United Engineering and Foundry Co. heavy-duty bloom ..... ‡*653
Sheet metals, Soldering, brazing and riveting. Eyles *443, *483, *521
Shells reduce machining costs, Drawn. Sheldon *741
Sherman head mask for forge shops ....‡*258
Shoes and wedges, Fixture for machining. Hahn *991
Shop and mathematics—discussion, Man in the. Goodrich 8, Senior 432, Willis.*669
Shop transport and costs 766
Shop vacations. Entropy 238
Shop with sales, Hooking up the. Godfrey. 815
Shore improved direct-reading scleroscope‡*769
"Sickle" universal cutter and reamer grinder, automatic—erratum ....‡*616, 691
Silberberg master chronograph ..... ‡*964
Silver, Steps in the making of inlaid plated*208
Silvis shops of the C.R.I. & P. Ry., Scheduling locomotive repairs at the. Curtis *341
"Simbi" electrical hammers ..... ‡*499
Simple dividing head. Homewood *723
Simple fixture for flaring pipe. Hudson.. *953
Simple method for clamping. Brown *799
Simple method of reducing inventory 744
Simple milling fixture for round work. Strama *872
Simple recoil cylinder mechanism. Fenno.*679
Simple specifications help all 530
Simplex die-casting machine, improved..‡*298
Simplified drawing-room practice—discussion. Hommel 526
Hommel 526
Simplifying wire gages 256
Singer sewing-machine methods, Some *907
Sirianni & Trumbettas flexible power unit, No. 112 ..... ‡*694
"Size-matic" internal grinding machine. Heald ..... ‡*377
Sizes of standard milling cutters (simplified practice) 31, 71
Skinner revolving-door oven ..... ‡*37
Slotter, Cutting a pinion on a. Waldo... *360
Slotting machine, Betts locomotive-frame.‡*259
Slotting machines, Dill ..... ‡179
Small diehead adapted to large turret lathe. Weigel *28
Smith reducing gears type 2 ..... ‡*181
Smooth threads in cast iron—discussion. Goss 7
Société Genevoise measuring microscope.. *177
Socony "Gasifier" ..... ‡*617
Solder, Resist for. Aulmann *327
Soldering, brazing and riveting sheet metals. Eyles *443, *483, *521
Some multiple-operation press tools. Irish. *187
Some Singer sewing-machine methods *907
Some unusual milling operations on sewing machine parts. Densmore *937
Something more. Braley *13
Spacing machine, Stiening hand-operated.‡*541
Speakers who talk overtime 374
Special fixtures for milling and boring... *426
Special machines for turning balance wheels. Wright *644
Special screw machine set-up. Boll *29
Speed reducers, Ganschow worm gear ....‡*997
Spotter, Caldwell vertical-capstan car....‡*690

Page

Spots, Bridgeport traffic ‡•618
Spotting idle machines 504
Spring guard on a drill spindle, Franklin •869
Springs to resist corrosion—discussion, Coating steel, Andrews 519
Stand for Fords, Stevens transmission ‡•618
Stand, Perry tilting idler-pulley ‡•499
Standard hose connections for welding equipment •253
Standard practice instructions, Atkins •23
Standard thread gages, Githens 760
Standard, To establish an American 45
Standardization and progress 174
Standardization during 1925, Development in industrial, Skinner 22
Standardization, Groove of, Sandmann 744
Standardization of drawing room practice 279
Standardization of locomotive reamers •155
Standardization without ruts 958
Standardized die sets for punch-press work, Colvin •245
Standardizing locomotive repairs, Hillman 663
Standards for German machine tools •638
Standby equipment 650
Starter, Cutler-Hammer across-the-line ‡•656
Starter for squirrel-cage motors, General Electric reversing ‡•926
Starter, Monitor thermoload ‡•38
Starters, Westinghouse across-the-line ‡•499
Starters, improved, General Electric resistance ‡•221
Station, Cutler-Hammer water-tight remote control ‡•297
Steam hammer "comes back," Snaith 67

STEEL: See also "Tool" and "Heat-treatment."

Steel code, Deciphering the 638
Steel, Drilling spring, Kauffman 170
Steels (chemical composition), S.A.E. 291
Steels, Heat-treatment for nickel 683, 993
Steels, Properties of alloy 873
Stellite surfacing or "stelliting," Harris 311
Stellite welding rod, Uses of, Huff 369
Steps in assembling a 36-ft. boring mill •716
Steps in the making of inlaid plated silver •208
Stevens, Inc., John B., purchases Garvin milling machines ‡420
Stevens refacing tool for Ford steering gear bushing ‡•733
Stevens tools for Fords ‡•690
Stevens transmission stand for Fords ‡•618
Stevens wheel puller and hub re-threader ‡•657
Stiening hand-operated spacing machine ‡•541
St. Louis Machine Tool Co. "Wonder" saw table portable ‡•998
Stop collar for the counterbore, Moore •992
"Storm" cylinder-boring machine, Model F ‡•964
Straightening cold-rooled plates, Fowler •870
Straightening snap rings, Alexander •913
Strand auto body buffing machine ‡•176
Strength of taper pins, Schell •914
Stutz "Eight," Cylinder heads of the new, Colvin •671
Stutz milling and boring fixtures, Colvin •631
Stutz shop, Connecting rods in the, Colvin •781
Sub-press: See "Press"
Suggestions, Rewarding employees for acceptable, Franklin 898
Superintendents—discussion, Those new, Terry 602
Super's plaint, Wright 156

SURFACE GRINDING MACHINE: See "Grinding"

Switch, General Electric master ‡•656
Switch type WK-62, Westinghouse quick-break industrial ‡•260
Switches, Allen-Bradley across-the-line ‡•1002
System, Badger improved wet-grinding ‡•76

T

"Tabco" portable vacuum cleaner, No. 500 ‡•458
Table and vise, Modern Machine Tool Co. combination drill ‡•734
Table, Increasing the diameter of a boring mill, Klick •643
Table portable, St. Louis Machine Tood Co. "Wonder" saw ‡•998
Table, Rockford "Rigidmil" vertical milling attachment and power-feed rotary ‡•696
Tachometer, type B, "Jagabi" stationary ‡•337
Tangible encouragement 686
Tank, Portable cleaning, Wilmarth •449
Tap altered to give higher production, Collapsible, Randol •170
Tapers in lathe spindles 585
Tapholder, Sensitive, Wilhelm •990
Tapping attachment, improved, Bicknell-Thomas ‡•695
Tapping holes in line, Drilling and, Warriner •525
Tapping machine, Hart & Hegeman high-speed automatic ‡•925
Tapping machine No. 8, improved, Gaterman pneumatic oscillating ‡•182
Tapping machine No. 4A1, Gateman pneumatic oscillating ‡•376
Tapping machine, No. 2-BG, improved "Garvin" automatic ‡•883
Tapping machine, ten-spindle, Anderson drilling and ‡•456
Tapping machine three-speed, No. 2, Alto ‡•537
Taps, class 8, Geometric adjustable and collapsing ‡•180
Tax practice, Amortization claims in income, Thwing 468
Taxation, American industry and, Emery 959
Taylor & Fenn ball bearing adjustable-head drilling machine ‡•220
Technical abstracts 33, 73 173, 215, 255, 293, 331, 373, 415, 453, 491, 529, 573, 611, 649, 685, 727, 765, 803, 835, 875, 917, 957, 995
Temperatures—discussion, Measurement of cutting, Herbert •281, •307, 310, •363
Templets of motors, Cardboard, Darling •30
Ten safety hints 422
Tentative standards for stock taper keys •816
Tester, "National-Cleveland" tooth form ‡•495
Testing machine automatic and autographic, Olsen universal ‡•652
Testing machine, Olsen brake-beam ‡•695
Testing machine, Olsen locomotive and car spring ‡•839
Testing machine, Riehlé universal, vertical-screw power ‡•770
Testing machines, production type, Nos. 1 and 2, Olsen direct motor-driven hydraulic, Brinell hardness ‡•457
Text for advertisers 34
That odd-sized bushing—discussion, Doescher, 252, Ferber •448
There's a romance in the making, Roper •984
Thompson radius grinding attachment ‡•880
Thompson universal grinder 10x36-inch, improved ‡•418
Those new superintendents — discussion, Terry 602
Threading machine automatic, Grant double-end ‡•694
Threading machine, model J, "Cleveland" double-end ‡•579
Threads in cast iron—discussion, Smooth, Goss 7
Thrift—To the last man in industry, Rindge •85
Thurston chuck and double-end mill ‡•178
Time study and methods analyst, Functions of the, Maynard 729
Timers—discussion, Home-made device to bore Ford, Dunn •212
Times change—but usually for the better, Godfrey 970
Tire mill, improved, "Betts" ‡•220
Titan friction collets ‡•36
To establish an American standard 45
To mediate railroad labor disputes 174
To the pole by airplane 804
Tool for finishing combustion chamber, Peters •646
Tool for hollow milling and facing, Freeman •290
Tool for reseating pop valves, Hudson •412
Tooling for a valve guide, Colvin •935

TOOLS:

—Adjustable reamers with interchangeable blades, Freeman •488
—Air-operated flue cutter, Feltner •952
—Air tools prominent at K.C.S. shops, Curtis •899
—Automobile industry and the machine-tool builder—discussion, Thwing 12
—Automobiles and machine tools in France 233
—Ball and roller bearings in machine shops and machine tools 167
—Blanking-die data •329
—Broaching tool for the screw machine •679
—Brubaker combined drill reamer, and countersink ‡•998
—Characteristics and use of hacksaws •763
—Chasers for self-opening and adjustable dieheads 451
—Converting a knurl holder into a turning tool, Simon •832
—Division of labor in tool manufacture, Pennock 599
—Economy in press tool design, Irish •619, •665
—Effect of mass production on machine tool design, Pletz 854
—End-stamping tool for automatic screw machines, Simon •69
—Examples of press tool design for typewriter parts, Irish •825
—Expanding arbor, Frewler •526
—Fixture for grinding threading tools, Landis •680
—Floor stand for drill-press tools, Wheeler •68
—Forge work in a railroad shop •5
—Getting machine tool capacity, Entropy 622
—Getting the most out of your machine tool dollar, Hartman, 1; Brown, 183; Westbrook, 261; George, 381; Graham, 697; Sandmann, 792; Gleason, 809; De Vlieg 929
—"Grand Rapids" universal cutter and tool grinder motor-driven, No. 1 ‡•338
—Handling locomotive repairs to meet a scheduling system, Curtis •433
—Handy squaring tool, Doescher •989
—Home-made holder for a threading tool, West •990
—How railroad repair shops are equipped •587
—Inexpensive bending tool—discussion, Harper •169
—Instructions for grinding twist drills •571
—Keeping tools in sets, Hall •68
—"Keypower" tool grinder ‡•615
—Maxwell drilling and boring tools—correction ‡•655, 696
—Measurement of cutting temperatures—discussion, Herbert •281, •307, 310
—Modern tooling methods for turret lathes, Lange •143, •199, •235, •271, •323, •357, •399, •427, •477, •517, •547
—Multiple-operation press tool—discussion, Strama •251, Ferber 646, White 708
—1925 inventory of machine tools in the class-I railroad shops 699
—Parting-tool attachment, Kendall •526
—Permanent machine tool exhibit, Roe 889
—Precision Gauge & Tool Co. "Friction-Less" live center ‡•840
—Press tool design of the American Multigraph Company, Irish •47
—Production of cold-drawn hot-pressed pipe unions, Knoll •565
—Protecting the edge of cutting tools, Williams 186
—Real service work is appreciated, Williams 368
—Robertson "Economy" tool grinder, No. 12 ‡•847
—Ruthman "Gusher" pump reversible, model BL belt-driven ‡•537
—Self-centering test button, Wheatcroft •913
—Shall the work or the machine tool be moved? •908
—Sizes of standard milling cutters (simplified practice 31, 71
—Some multiple-operation press tools, Irish •187
—Standards for German machine tools •638
—Stevens refacing tool for Ford steering gear bushing ‡•733
—Stevens tools for Fords ‡•690
—Types of manufacturing gages •725
—Warner & Swasey universal tools for turret lathes ‡•336
—Warner & Swasey universal tools for turret lathes, Nos. 4 and 6 ‡•692
—Welding and air equipment in the Danville shops, Curtis •941
Tool for a difficult job, Gregory •645
Tool for reseating valves, Masters •450
Tool, Overshot forming, Downs •912
Tool to face seats on packing nuts, Masters •28
Toolholder, Automatic recessing, Schell •643
Tooling for transmission levers, Turret, Yeomans •976
Torch type J—Jr., Milburn welding ‡•768

TRADE: See also "Foreign Trade."

—American industry and public policy, Emery 659
—Attracting men to the metal work industries—discussion, Harlow 504
—Current developments in American business 811
—Foreign trade as a co-operative venture, Hoover 481
—Future of export trade in metal-working machinery, Rastall •755
Trade association as a credit builder 174
Trade associations' big job 34
Trade schools under the Guild system 454
Tradition and the oil can, Godfrey 598
Traffic post on a shop floor, Wright •911
Trailer for industrial tractors, Crescent ‡•695
Training factory foremen, Fulton 421
Transmission, Columbia "JFS" variable speed ‡•920
Transmission levers, Turret tooling for, Yeomans •976
Transportation units in the Fiat works •590
Trent electrical melting pot, portable ‡•928
Triangle altered for lettering, Myers •989
Trolley, American Engineering Co. "Lo-Hed" electric-hoist ‡•536
Truck, Arcade lift ‡•884
Truck for machine moving, Fisher •761
Truck, K23E, Yale elevating-platform ‡•690
Trying out solid-end main rods on old locomotives, Hudson •328
Tube-piercing costs, Reducing, Scholl •952
Tubes, Fixture for holding, Kendall •412
Tubes for ball-bearing motors, Fairbanks, Morse & Co. grease ‡•734
Turning an awkward piece on a boring machine, Franklin •570
Turning small balance wheels in an engine lathe, Wright •951
Turnover jig for small connecting rods, Rolfe •762
Turret lathe in a railroad shop, Franklin •69
Turret tooling for transmission levers, Yeomans •976
Two methods of making flywheels, Colvin •821
Two new oil-electric locomotives in operation •20
Two years to reorganize the Government 216
"Tycos" high-resistance pyrometers ‡•176
Types of commercial lock washers •915
Types of manufacturing gages •725

U

Unethical use of manufacturers' drawings—discussion, Terry 436
Union two-lip end mills spiral cut ‡•76
Unishear inside cutter model O ‡•848
Unit, "HB" portable air ‡•539
Unit, No. 112, Sirianni & Trumbettas flexible power ‡•694
Unit, Utility "Motor-It" speed reducer ‡•998
United Engineering and Foundry Co. heavy-duty bloom shear ‡•653
"United States" grinding machine, heavy-duty ‡•541
United States portable electric drills, ½-inch ‡•181
Unnecessary accuracy 216
Use for jig bushings, Jager •569
Use of babbitt in unusual places, Fowler •761
Uses of stellite welding rod, Huff 369
Using a hand reamer in a lathe—discussion, Steele 290, 682, Shafran 488
Using "machine sense" 516
"Utility" air-motor hoist, DU, Ingersoll-Rand ‡•419
Utility "Motor-It" speed reducer unit ‡•998
Utilizing worn boring-bar cutters, Marks •370

V

V-block designs for jigs and fixtures ••171
Value of advertising, MacArthur 564
Valve guide, Tooling for a, Colvin •935
Valve, "H-P-M" high pressure and temperature forged steel ‡•333

Page

Valve, Nugent sight-feed ‡*615
Valve-setting device—discussion, Reibel *450, Fiedler 762
Valves, Tool for reseating, Masters *450
Valves, Tool for reseating pop, Hudson *412
Van Norman "Reamo" piston and connecting-rod reaming machine ‡*1004
Various examples of arc-welded joints *788
"Vibrometer," Davey ‡*175
Victualic flexible pipe joints ‡*379
Victor "Hi-Tensile" capscrew ‡337
Vise, Air-operated, Wright *327
Vise, Modern Machine Tool Co. combination drill table and ‡*734
Vise, Parker "Big Bear" ‡*654
Vocational training for the sub-normal 332
Volume 64 34

W

Wabble rumbler, Hudson *870
Wages 876
Wahlstrom safety tapping chucks ‡*999
Wallace portable universal saw ‡*655
Wanted—A time-saving scale—discussion, Duchesne *242, Hampson 744
Wanted—A time-saving steel rule—discussion, Wright 249
Warner & Swasey "Roto" pneumatic grinders and drills ‡*708
Warner & Swasey universal tools for turret lathes ‡*336
Warner & Swasey universal tools for turret lathes, Nos. 4 and 6 ‡*692
Warner & Swasey universal turret lathe, heavy duty, No. 3-A ‡*877
Washers, Types of commercial lock *915
Washing-machine parts, Milling fixtures for, Jones *411
Waste, Co-operation in the elimination of, Hodge 330
Wasting to save waste, Stuart 642
Watervliet spiral king-bolt hole reamer ‡*297
Watson-Stillman "Hydroscrew" jack ‡*924
Weidenhoff constant-potential battery charger ‡*963
Weidenhoff electric test bench, model 36 ‡*458
Weight of brass stock for screw machine parts 955
Welcome settlement 804

Page

WELDING AND CUTTING:
—Alcumite—An aluminum bronze alloy *61
—Arc welding practice and inspection, Candy *43
—Autogenous welding of aluminum and its alloys, Eyles *275, *353
—Comparative strength of spot welds and rivets 8
—Eisler electric welding machine ‡*732
—General Electric resistance welding machines ‡*576
—Growth of welding, Godfrey 471
—"Mann" master controller for electric arc welders ‡*921
—Milburn welding torch type J-Jr. ‡*768
—Oxy-acetylene welding of copper, Miller *639
—Standard hose connections for welding equipment *253
—Uses of stellite welding rod, Huff 369
—Various examples of arc-welded joints *788
Welding and air equipment in the Danville shops, Curtis *941
Welding—discussion, Andrews 265
Welding reduced the junk pile—discussion, Andrews 545
Westinghouse across-the-line starters ‡*499
Westinghouse industrial switch panelboard ‡*297
Westinghouse quick-break industrial switch type WK-62 ‡*260
Westinghouse three-element demand meter type RA ‡*962
Wetmore adjustable reamers, types 10 and 11 ‡*839
What do we know about bearings? 34
What is the average age of your machine equipment? 958
Wheel puller and hub re-threader, Stevens ‡*657
Wheel - quartering machine, 90 - inch, "Niles," ‡*884
Wheels in an engine lathe, Turning small balance, Wright *951
Wheels in the shop, Handling chilled car, Hudson *405
Wheels, Regrinding cast-iron car, Adams 274
Wheels, Special machine for turning balance, Wright *644
When is a machine obsolete? 332
Where machine equipment does double duty, Colvin *349
Where quantity and quality go together 492
Where schools can help—discussion, 256, Swenson 562, Anderson 752

Page

"Whitcomb-Damerell" combination shaper and milling machine ‡*339
"White" compression-loss micrometer ‡*962
Why American industry leads 574
Why expect brains, if only brawn is paid for? Thorburn 820
Why some small shops succeed 836
Wickes Bros. semi-automatic crankshaft lathes, 34-inch ‡*531
Widening use of machinery 216
Wider use of milling machines in the railroad shop *469
Wiggler—discussion, Inexpensive and reliable, Doescher *252
Willys-Knight production methods, Colvin *147, *191, *229, *263, *313, *423, *461, *513, *551
Winder, Fostoria coil spring ‡*579
Winding machinery, Operations in building, *14
Winning solutions of the third prize problem *473
Winterhoff drill, No. O "Junior" ‡*180
Winterhoff grinder and disk grinder, No. 2 ‡*219
Winterhoff saw and arbor universal, No. 1 ‡*37
Wire articles, Bending small, Dowel *680
Wire, Hold down for use in cutting off, Kendall *644
Wire-straightening and cutting-off machine, automatic, Hallden rotary ‡*578
"Wonder" saw table portable, St. Louis Machine Tool Co. ‡*998
Woodward & Powell crank planer 36 x 36-inch ‡*221
Works engineer's position in industry, Corwin 4
Wrench, Armstrong chrome-vanadium steel ‡*841
Wrench kits, Bonney ‡*840
Wrench set, No. 12, Blackhawk, quick-detachable ‡*179
Wrenches, Bonney chrome-vanadium ‡*338
Wrenches, Husky ratchet and hexagon socket ‡*336

Y

Yale & Towne ball bearing electric chain hoist model 20B ‡*258
Yale elevating-platform truck, K23E ‡*690
Yard-stick for convenient measuring, Inlaid, Faulhaber 930

NEWS SECTION

Page

A.B.M.T.M. does not control prices....743b
Activities of A.S.M.E. management division 658c
Adams, Edward Dean, Wins Fritz gold medal 182a
Addresses of high quality feature gear manufacturers' convention 808a
Adjourn metric hearings to summon leading manufacturers 260a
Aeronautic meeting at Philadelphia.....1004a
Air brake tests conducted at Purdue.....298b
Air commerce bill gives control to Hoover.850c
Air-cooled commercial aircraft engine....298c
Airplanes for middies 78
Altitude-pressure tables are now available.298a
American exports gained last year..... 78
American journalists meet at capital.....618f
American machine tools popular in Peru..542b
Analysis of the revenue act of 1926.....380a
Analysis shows gain in skilled labor....696a
Apprentices begin Hartford course.....928d
Arbitration societies form merger.....380c
Arguments for and against tariff on copper.770d
Army engineers would benefit by Federal public works department 618b
A.S.M.E. entertains foreign delegates....696b
A.S.M.E. regional meeting at Providence attracts largest attendance on record..770b
Atterbury praises employee co-operation on Pennsy 770e
Auto industry needs steel substitute.....142a
Auto production in France increased last year 260b
Auto show reveals efforts of builders toward greater endurance and utility....142a
Automobile builders are experimenting with new methods of gearing.....928a
Automobile sales slow in England..... 734
Aviation problems occupy attention of automotive engineers in convention.....222a

BAILEY, H. J., heads jobbing group....770e
Barnes, C. F., dies.....618f
Begin hearings on metric bill.....222a
Birthday dinner tendered John Hays Hammond 770e
Boye and Emmes will rebuild factory.....260a
Boys learn sheet metal work.....580c
British Industries Fair invites the world..182d
British machinists here to study American shop methods 460
British markets buy most American machine tools 260b
British tool builders invite Americans.... 78a
British trade experts predict supremacy of United States in world commerce.....260c
British trade union students in America..*658e
Buildings will be ready for sesqui-centennial 38b
Bureau investigates oil viscosity 618c
Business depression continues as Japan waits opening of American silk market.....966b
Business men will discuss self-regulation problems 696f
Business Paper Editors have fifth anniversary with Secretary Hoover.....808f
C. of C. bulletin points out need for skilled labor 966b
Canada modifies auto tariff schedule.....966f
Canadian auto show 298b
Cards and calendars received..... 78
Carnegie Tech program of metal research..618c
Central European countries prove good markets for American industrial machinery.542c

CHARCOAL-GAS motors perfected in Sweden 888c
Chicago & North Western operating oil-electric locomotive 770e
Chicago engineers study waste problems of the machine shop 542a
Chicago section of A.S.M.E. will hold symposium on wastes in the machine shop.420a
Chile buys American planes for Army....500a
Chile orders American automatic rifles....618c
China buys more machine tools.....298c
Citroen expands plants outside of France..340b
Committee to enforce Code of Ethics....260b
Committee working on furnace refractories.1004c
Conference at Purdue extols advantages of electric heat 580b
Conference board elects L. A. Osborne chairman 850c
Conference on industrial relations in June. 78a
Congress recognizes perpetual motion inventor 618a
Congress to investigate essential commodities 38b
Conscious co-operation and high wages are subjects of discussion at U. S. Chamber of Commerce convention 808c
Consider machinery exhibit at Springfield..298c
Continental gets patent on Argyll motor..542c
Convention committee for steel treaters..1004b
Cornell may establish Sweet memorial professorship 618a
Cost conference invites business executives.928d
Crocker, G. B., elected by Southern Metal Trades 808f

DISCUSS standards for Woodruff keys...808f
Display of inventions at Portland..888c
Draftsmen needed 78a
Dual convention of dealers' and manufacturers' associations to be held.....734c
Dreses will build new plant.....222a

Page

EFFORT made to promote standard gaging 1004c
Employees study metallurgy at Carnegie Institute 380c
Engineering Council will aid Hoover.....1004c
Engineering Council plans study of safety.1004f
Engineering Council plans to attack waste.142a
Engineering Council to aid Polish students. 38a
Engineering Foundation elects Stillwell...340a
Engineering Foundation provides for further scientific research 888c
Engineers and scientists would propose standardization of electrical apparatus and technical language for world use..658b
Engineers sponsor proposed department of public works 78a
Enlarge scope of research at Illinois University 380e
Enlist aid of school in apprentice training.770h
Ericsson medal for science.....542c
Executives outline the foreman's position in the scheme of management.....888a
Exhibitors at railway convention.....966f
Experimental data on quenching of steels..888a
Export of machine tools continues upward. 38f
Express companies will charge for storage of unclaimed goods 542f

FARM machinery exports ahead of previous year 260b
Farrel veterans hold annual dinner.....1004g
Fifty thousand students in engineering schools 580c
Fine program ready for A.S.M.E. Providence meeting 658h
Fire destroys nickel plate repair shops....460d
First meeting to study co-operative plan..808f
Five million dollar building project by Westinghouse 888c
Ford air service makes first year record...850c
Ford to manufacture textiles for autos..380d
Foreign competition not important 542c
Foreign trade council wins tax fight.... 460
Foreign trade policies and practices on council program 580c
Fort Wayne and Montreal get A.S.S.T. charters 658c
Foundry and motor merger completed in Detroit 542a
Foundry equipment manufacturers in convention 734b
Foundry instructors will confer.....580b
Foundry trades exhibition planned for London 658a
14 per cent increase in machinery exports.696c
France and Italy buy German machinery..340b
France not yet over effects of financial instability—Export and import figures show economic losses 222
French commerce and industry languish while readjustments take course.....542b
French industry retarded by financial, political and taxation problems.....658d
French machinery builders making big improvements in design and operation....1004a
Fritz, John, Medal to Edward Deans Adams.460a
Fritz medal presented to E. D. Adams....580a
Future of industry in France clouded by uncertainty of money market.....888b

G. E. Defense 298b
Gear manufacturers complete program for convention 618c
Geier, F. A., Receives ancient milling machine as unique Christmas present....182a
General Brancker tells of air trip to India.542a
German automotives plan reorganization.. 500
German machine tool industry needs export trade 182d
German machinery sold in France..... 78a
German rivet makers combine interests....888c
Germany to solve cost problems by adoption of American production methods..850f
Guggenheim gives more to foster aviation..182a

HALF million for air commerce.....928a
Hartford to resume machinist schools.182d
Harvard fellowship for industrial relations.380c
Heald Machine Company celebrates centenary 38c
Hearings on metric legislation draw arguments from opponents of bill..... 460
Heinen, Captain, Will address engineers...182a
Historic auto data presented to chamber..260c
Honor Dr. Reusch 966a

IMPORTS of machine tools to Germany show return to post-war basis.....770d
Increased duty 38b
Increased efficiency of management and machinery made industrial gains possible in year just passed 38a
Indiana S.A.E. debates axles.....618c
Indiana S.A.E. meets 658i
Industrial foremen to study their jobs ..618a
Industrial leaders tell how engineers can qualify for executive positions.....658b
International congress for foundrymen....460a
International standards on ball bearings.. 966
Investigate Canadian steel industry.....1004f
Investigation shows need for higher tariff on pig iron 500a

JANUARY an active month for S.A.E. members 38b
Japan faces industrial crisis if silk market fails to respond 658d

Page

Japanese guarantee machinery..... 38b
Joint meeting on management.....182a
Judge Gary on labor problems.....850a

KIMBALL, Dean, Heads Engineering Council 182a

LEGAL permission to pool buying of tin 380d
London mechanical engineers elect..460a
Lowered cost of mail truck operation....298b

MACHINERY exhibit at railway meeting 460a
Machine tool builders vote to hold own exhibition in 1927 .....770a
Machine tools exhibited at continental fairs 966c
Machinery and power bring higher wages.1004f
Machinery export ratio lower last year...260b
Machinery exports fell off in March.....734c
Machinery exports from France increase.. 379
Machinery exports still increasing.....420d
Machinery exports still show increase....222a
Machinery exports to Czechoslovakia increase 580b
Machinery industry in France hampered by outside competition 380e
Machinery manufacturers and dealers hold combined convention 850b
MacNider extols merits of industrial mobilization 580a
MacNider organizes war business council.618a
Magnetic testing of steel to be reported to A.S.T.M. 888b
Major engineering bodies aid National Museum 38c
Management course at Columbia.....260f
Management week will review waste problem 888f
Marine engine exports gaining steadily...380c
Market for industrial machinery in Canada needs attention from American manufacturers 340b
Mask for forge shops, Sherman head....‡*258
Mass production possible through use of limit gage standards 298b
May sell machine tools to Cuba.....182d
McGraw-Hill takes over Keystone catalogs 78
McGregor, Hugh, Died last week.....500d
Metal Trades establish system of interchange of equipment 500a
Metal Trades re-elect W. D. Hamerstadt..618b
Metal Trades study management problems.*658
Metal Trades will prepare foreman textbook 850f
Metric bill gets serious set-back when opponents present case 542
Metric legislation again fails in House ...734c
Modern design and practice in welding featured at annual meeting.....696b
Motor sales and output increased in March.580c

NATION-WIDE observance of management week 1004b
National Academy will study science.....618c
National contest of foundry apprentices..1004c
National Museum re-elects 966c
National tractor meeting postponed.....460a
Navy approves new aircraft engine.....298c
New aircraft venture started in Detroit..460d
New auto body factory starts in Germany.734f
New Canadian tariff works hardship on manufacturers 696c
New commerce office opened in Barcelonia.696a
New committee will study elimination of trade abuses 542b
New Haven making ready for machine tool exhibit 966c
New president for Brooklyn Polytechnic.. 38b
News of the automotive industry....38f, 78d, 182d, 260f, 298f, 340f, 380h, 420d, 460d, 542f, 618g, 658h, 770h, 850g, 966f, 1004f.
No hearings planned for new metric bill.. 78
No need for many of our small industries.580c

OIL and gas conference next week.....618b
Oil Burner Association to meet in Detroit 460a
Oil-flow tests to aid lubrication of aircraft 1004b
Opponents of metric bill impress committee 500d
Organize to further machinery markets...542b
Our productive capacity doubled in 35 years 38a

P. & W. Aircraft Co. adds four executives to board of directors 966c
Packard to build own proving ground..340c
Patents granted to Americans in Britain..340a
Pedrick, D. W., Pioneer in machinery industry, is dead 580f
Pensions for industrial workers a problem for executives today 298a
Philadelphia Club studies conservation of power in industrial plants.....380d
Plan record of inquiries.....542c
Plan survey of old machine equipment....618b
Plan Woodruff key standardization..... 542
Plans for meeting of Welding Society....460a
Pratt & Whitney complete plant reorganization 696c
Pratt & Whitney managers hold convention 734b
President of Canadian National Railways indorses co-operation plan 260a
President signs aviation bill.....888c

Page

Principles of simplified practice are gaining favor in all countries.....298a
Propose another deputy to Secretary to War 500a
Propose safety code for traveling cranes..696f
Purchasing agents at Los Angeles.....1004b

RAILROADS find use for old materials.. 38c
Railway and automotive shops furnish most British machinery business.....340c
Railway executives and supply men hold convention at Atlantic City.....966a
Railway supply men to exhibit.....460a
Reading uses track laying machine..... 77
Regulations drafted for tetraethyl gas....580b
Reo expert forecasts big improvements in design and manufacture of gears.....580a
Report ready on rivet standardization.....888f
Research committee reports completion of gear testing machine for A.S.M.E....340a
Research fellowships at Lehigh University.298c
Resolution would put metric responsibility up to Hoover 658e
Resume manufacture of ethyl gasoline..298b
Rickenbacker to build airplane motors in Detroit 78a
Round table discussion of practical problems 618b
Russian patents 888a

S.A.E. meeting to follow big race.....460a
S.A.E. production meeting at Chicago.696f
Scientists and engineers coming for meeting of electrotechnical commission..... 500
Secret file for patents 658e
See better market for machinery in England 380c
Sees big market in South America..... 420
Shortage of working capital and credit facilities hamper German industry 928d
S.I.E. studies practical means of waste elimination 1004b
Simonds prize essay on simplified practice.618a
Simplified practices accepted.....542a
Slight decrease in exports in February....580g
Slight increase in exports of machinery in April 928e
Southern Metal Trades meeting at Macon.696b
Stabilizing business formed keynote of management convention in New York..420a
Standards adopted for die-chasers and heads 298c
Start production on Stinson airplanes....966a
State labor department lectures on safety.618c
Steam versus oil-electric.....340c
Steel treaters meet at Buffalo.....182a
Steel treaters meet next week 770c
Steel treaters will extend activities to include non-ferrous metals 850a
Stutz entertains foremen.....658h
Summer courses at Carnegie Tech..... 542

TEST draft gears on railway equipment.580b
To expand value of census statistics.340b
To start construction of mammoth airplane plant for Ford 380c
Trade boom in Japan delayed by many unfavorable factors 888f
Trade exhibit fosters export business....580c

Page

U. S. buying power has increased over five million dollars.....966c
U. S. Chamber issues cost standards..... 38c
U. S. furnishes third of British machinery imports in 1925 .....500a
United States losing steel rail market in Japan through high prices 696a

VARIED program for S.A.E. meeting..618b
Variety of subjects for summer meeting of S.A.E. 734f
Vauclain praises the industry of Russia and Poland 1004c

WAGNER Electric motor wins honor...260c
Wallace, L. W., heads eye conservation council 298b
Welded locomotive tank proves efficient..298c
Western engineers honor Insull.....928d
What the railroads are doing....38f, 78d, 182d, 260f, 298f, 340f, 380h, 460d, 542f, 618f, 770i 888f, 928c, 966f, 1004f.
Will discuss methods of stabilizing business 222a
Work on standardization of toolholders...542a
Work on standardization of washers and pins 500d
World commerce and economic progress analyzed by Foreign Trade Council....734a
Would make screw thread commission permanent 340c
Would reduce sizes of ball bearings.....618c
Would reduce waste in metal trades.....850a
Would repeal rates on metal schedule....260c
Would simplify gages for wire and sheet metal 500

AUTHORS' INDEX

A

Page

Adams, Robert W.
Cylinder bore finishing 51
Regrinding cast iron car wheels 274
A'Hearn, F. M.
John Dick's compound *903
Shrinking a cylinder on a brass lining—discussion 645
Alexander, John D.
Straightening snap rings *913
Alexander, Magnus W.
Changing environment of industry..... 944
Allen, L. D.
Causes of babbitt-bearing failures 754
Constituents of bearing metals 660
Pouring babbitt-metal bearings..... 722
Prevention of loose babbitt-metal linings 911
Allis, Dexter W.
Efficient friction drive for small motors*831
Releasing new mainsprings *761
Anderson, Edward
Where schools can help—discussion.... 752
Andrews, E.
Aluminum paint—discussion 228
Coating steel springs to resist corrosion—discussion 519
Industrial accidents 446
Reducing the dead weight per passenger—discussion 190
Welding—discussion 265
Welding reduced the junk pile—discussion 545
Applegard, H.
Limits of accuracy in repetition work.. 389
Secondary operations on parts produced by the automatic screw machine *467
Atkins, Paul M.
Standard practice instructions *23
Aulmann, W. G.
Holders for fly cutters *570
Resist for solder *327

B

Bach, F. W.
Method of indicating go and not go ends of gages *210
Bailey, H. P.
Portable grinder used on a boring mill.. *30
Blair, John I.
Retaining clip for a scale *570
Blanchard, E. P.
Discounts on school machinery 403
Manager's handicap *410
Boeckel, F. W.
Floating reamer holder *70
Boll, H. J.
Special screw machine set-up *29
Braley, Berton
Something more *13
Brown, Norman E.
Simple method of clamping *799
Brown, Percy S.
Getting the most out of your machine tool dollar 183
Buckingham, Earle
Design of gear tooth forms *299, *345, *391, *439, *465, *509, *555, *595, *635, *719, 745, *817, *895, *945, *973.
Relation of load to wear on gear teeth—discussion *777, 969
Page
Burby, James D.
Crankpin design for electric locomotives—discussion *287

C

Candy, A. M.
Arc welding practice and inspection.... *43
Carroll, B.
Is engineering education too technical?—discussion 362
Charushin, V.
Continuous fractions as a means for figuring change gears—discussion 196
Childs, Leslie
Liability of employers 592
Liability of manufacturing plant for injury to leased premises 776
Chubb, I. Wm.
Details of machining operations in a British railway shop *737
Clark, Wallace
New fields for modern management *285
Cole, Lester M.
Setting the compound rest 168
Colvin, Fred H.
Connecting rods in the Stutz shop *781
Cylinder heads of the new Stutz "Eight"*671
Fixtures and methods in machining Hupp cylinders *985
Fixtures for machining oil-pump bodies.*753
Fixtures for overhead-camshaft bearings.*905
Piston methods in the Rickenbacker shop*581
Piston-pin methods that are different...*701
Putting responsibility up to each department *543
Rods for Rickenbacker engines *395
Standardized die sets for punch-press work *245
Stutz milling and boring fixtures *631
Tooling for a valve guide *935
Two methods of making flywheels *821
Where machine equipment does double duty *349
Willys-Knight production methods *147, *191, *229, *263, *313, *423, *461, *513
Condit, K. H.
Getting facts for automobile designers.. *9
Cormack, George
Locating a job—discussion 862
Corwin, C. D.
Works engineer's position in industry.. 4
Crawford, Herbert F.
Boring work in steadyrests *569
Creasy, P. F.
Electric heat for the machine shop *865
Curtis, Frank W.
Air tools prominent at K.C.S. shops....*899
Driving box practice at the C. & N.W. shops *501
Handling locomotive repairs to meet a scheduling system *433
Here and there in the "Katy Shops"..*771
Holding chain drives at constant tension.*823
How a railroad shop manufactures a hundred connecting rods each month..*851
Modern applications of disk grinding....*385
Modern grinding operations at the Otis plant *157
Odd jobs in a Chicago railway shop...*563
Odds and ends of Frisco repairs *709
Scheduling locomotive repairs at the Silvis shops of the C.R.I. & P. Ry...*341
Welding and air equipment in the Danville shops *941

D

Page

Darling, H. M.
Cardboard templets of motors..... *30
Davey, E. N.
Gage for shell adapters.....*412
Davies, J.
Does the draftsman co-operate with the machine shop? *980
Davis, Glenn L.
Analytic methods in apprentice instruction 524
DeHart, Sanford
Reducing lost time accidents *967
Demkier, Lester A.
Selecting lead gears for a hobbing machine 270
Densmore, Henry
Grinding sewing machine shafts on the centerless grinding machine *813
Some unusual milling operations on sewing machine parts *937
DeVlieg, R. A.
Getting the most out of your machine tool dollar 929
Dittenhofer, Erb N.
Economy due to power factor correction 243
Doescher, Charles
Bluing the faces of blanking dies..... 830
Handy squaring tool *989
Inexpensive and reliable wiggler—discussion *252
Inspection pitfall—discussion 432
That odd-sized bushing—discussion 252
Douglas, L. Coleman
Chart for use in metal drawing.....*953
Dowel, Alex.
Bending small wire articles.....*680
Downs, Henry T.
Overshot forming tool *912
Duchesne, E.
Wanted—A time-saving scale—discussion *242
Dunn, H. G.
Home-made device to bore Ford timers—discussion *212

E

Edward, W.
Attitude and profits 437
Eidmann, Frank L.
Machine design and the handling problem *855
Ellsworth, H.
Air hammer experience 508
Emery, James A.
American industry and legislation..... 775
American industry and public policy.... 659
American industry and taxation..... 959
Entropy
Big men in small shops 674
Buying a second-hand lathe..... 707
Comparison of drawing methods..... 568
Getting machine tool capacity..... 622
Hanging back 512
Is engineering education too technical?—discussion 447
Is there anything the matter with engineering education? 972
Jim and Henry 798
Jim comes back 894
Jim gets over his head 740
Machine design for a purpose 302
Production hindrance and a remedy.... 585
Shop vacations 238

Page

Erwin, Jr., G. L.
Finishing opposite sides of valve plates by continuous rotary milling.....*831
Fixture for milling steering-column nuts *989
Eyles, A.
Autogenous welding of aluminum and its alloys *275, *353
Soldering, brazing and riveting sheet metals *443, *483, *521

F

Faulhaber, Frank V.
Blackboard in the shop 862
Inlaid yardstick for convenient measuring 930
Keeping oilstones in condition..... 570
Removing chips from drilled holes..... 679
Salesmen who know their product—discussion 524
Felten, Leo
Knurl holder for automatic screw machine *991
Feltner, George
Air-operated flue cutter *952
Recording air-pump repairs *944
Fenno, J. E.
Simple recoil cylinder mechanism.....*679
Ferber, Amos
Multiple-operation press tools—discussion 646
That odd-sized bushing—discussion.....*448
Fiedler, H. F.
Valve-setting device—discussion 762
Fisher, Fred
Truck for machine moving.....*761
Forbes, A. W.
Conveniences of some old machines.... 670
Fowler, H. R.
Lute for babbitting bearings 607
Straightening cold-rolled plates *870
Use of babbitt in unusual places.....*761
Francis, Henry C.
Quick-operating jig clamps *872
Franklin, B. A., Col.
Mobilization plans of the Bridgeport Ordnance District *223
Franklin, Chester H.
Boring an oblong hole *194
Spring guard on a drill spindle.....*869
Turning an awkward piece on a boring machine *570
Turret lathe in a railroad shop..... *69
Franklin, Oliver
Rewarding employees for acceptable suggestions 898
Fraser, Maj. T. C.
Seen and heard—discussion 674
Freeman, A. W.
Adjustable reamers with interchangeable blades *488
Tool for hollow milling and facing....*290
French, Clifford H.
Milling two jobs at once.....*723
Pressing in and reaming piston bushings *990
Frewler, Daniel
Expanding arbor *526
Fulton, Ellis G.
Training factory foremen..... 421

G

Gardiner, W. B.
Proper analysis results in both accuracy and cheapness *487
Geiger, C. W.
Portable office in the machine shop.....*954
George, Jerome R.
Getting the most out of your machine tool dollar 381
Gerry, Chas. W.
Do statesmen know their product? 360
Githens, T. F.
Standard thread gages 760
Gleason, James E.
Getting the most out of your machine tool dollar 809
Godfrey, John R.
Seen and heard..27, 45, 155, 167, 311, 356, 431, 471, 507, 598, 712, 743, 815, 934, 979.
Goodrich, Harold R.
Man in the shop and mathematics.... 8
Goss, L. K.
Smooth threads in cast iron—discussion. 7
Graham, Robt. K.
Reclamation on the Santa Fe..... 600
Graham, W. S.
Getting the most out of your machine tool dollar 697
Gregory, Alfred T.
Convenient profiling fixture—discussion.*169
Tool for a difficult job.....*645
Griggs, H. K.
Lute for babbitting bearings—discussion 992
Guyer, A. F.
Photographs for drafting records—discussion 940

H

Hahn, J. H.
Fixture for machining shoes and wedges.*991
Hall, Fred W.
Keeping tools in sets *68
Hall, James A.
Inertia forces in the Geneva stop and similar mechanisms *603
Halsey, Frederick A.
Shall we adopt the metric system?.... 508
Hampson, Donald A.
Cast-iron plates for holding abrasive cloth *606
Is engineering education too technical?—discussion 340
Latest metric bill 670
Making multiple patterns in white metal *211
Reducing costs of cutters and cutter grinding 784
Wanted—a time-saving scale—discussion 744
Hardecker, John F.
Blueprints from blueprints..... 980
Design estimating 714
Functions of a project engineer in a technical organization *641
Material specifications 520
Photographs for drafting records..... 383
Saving checking time on large drawings. 751
Harlow, Arthur
Attracting men to the metal work industries—discussion 504
Harper, J. C.
Inexpensive bending tool—discussion...*169
Harris, A. V.
Stellite surfacing or "stelliting"..... 311
Hartman, Wm.
Getting the most out of your machine tool dollar 1
Havens, B. S.
Safety appliances *830
Haverstick, B. M.
Method of finding lead gears—discussion 244
Havlik, Joseph
Attachment for turning concave and convex surfaces *370
Herbert, E. G.
Measurement of cutting temperatures, *281, *307, *363.
Herbes, I. F.
Broaching tool for the screw machine..*679
Herman, V.
Extension for calipers.....*327
Herold, Matt J.
Higher buffing speeds on 25- and 60-cycle current 634
Herr, E. M.
Maintenance of proper relations between employer and employee..... 380
Hersey, Mayo D.
Measurement of cutting temperatures—discussion 310
Hillman, C. M.
Standardizing locomotive repairs..... 663
Hodge George
Co-operation in the elimination of waste 630
Hommel, J. I.
Simplified drawing-room practice—discussion 526
Homewood, C.
Simple dividend head *723
Homewood, J.
Psychology on the rush job..... 721
Reasons vs. threats—discussion..... 943
Hoover, Herbert C.
Foreign trade as a co-operative venture.. 481
Hudson, Frank C.
Accurate angles by optical methods....*601
Credit where it is due..... 864
Double, balanced fixture *723
Electric heater for gasket rings.....*682
Fixtures that can be used in many shops *893
Handling chilled car wheels in the shop.*405
How shall we designate angles?.....*798
Rough and finish milling cylinder blocks at one pass *799
Setting the hood chafing-strip *992
Simple fixture for flaring pipe.....*953
Tool for reseating pop valves.....*412
Trying out solid-end main rods on old locomotives *328
Wabble rumbler *870
Huff, Ernest
Mixture for babbitting bearings..... 760
Uses of stellite welding rod 369

I

Ichler, Warren
Analytic methods in apprentice instruction 524
Irish, W. E.
Economy in press tool design....*619, *665
Electric metal heater in wheel manufacture *21
Examples of press tool design for typewriter parts *825
Factory manager speaks on production control and safety 735, 785
Press tool design of the American Multigraph Company *47
Some multiple-operation press tools.....*187
Irvine, R. L.
Seen and heard—discussion 45

J

Jager., George W.
Use for jig bushings.....*569
Jank, George P.
Device to form radii on the corners of a grinding wheel *250
Johnson, Geo. F.
Selecting tap drills..... 681
Jones, J. A.
Milling fixtures for washing-machine parts *411

K

Karlberg, J. S.
Diction in catalogs—discussion..... 592
Kauffman, Charles
Drilling spring steel 170
Kauffman, John J.
Hardening-room practice 757
Kendall, Arthur
Fixture for holding tubes *412
Hold down for use in cutting off wire..*644
Parting-tool attachment *526
Kiddle, Richard H.
How would you do this job?—discussion *954
Shrinking a cylinder on a brass liner—discussion *525
Kielman, J. C.
Forging rings by the upset process..... 949
King, L.
Maintenance of motive power on New England railroads—discussion 800
Kinnison, Charles S.
"Put it in my envelope"..... 868
Klick, P. S.
Increasing the diameter of a boring mill table *643
Knoll, R. C.
Production of cold-drawn hot-pressed pipe unions *565
Kopsch, H. J. Gustav
Casehardening screw-machine cams.....*912
Kugler, Charles
Angular turning on a milling machine..*168
Calculating lead gears—discussion.....*210
Continuous fractions as a means for figuring change gears—discussion..... 752
Filing machine improvised from a sensitive drill press *169
Holding oversize pistons for turning.... *70

L

Landis, W. C.
Fixture for grinding threading tools...*680
Lange, M. E.
Modern tooling methods for turret lathes, *143, *199, *235, *271, *323, *357, *399, *477, *517, *547.
Leach, E. W.
Choosing your business partners..... 361
Lincoln, H. C.
Pneumatic stock feed for multi-spindle automatics *607

M

MacArthur, J. E.
Value of advertising 564
Marks, R. E.
Utilizing worn boring-bar cutters.....*370
Masters, Mack
Tool for reseating valves.....*450
Tool to face seats on packing nuts.... *28
Maynard, Harold B.
Functions of the time study and methods analyst 729
McCormick, Jr., Cyrus
Foreman training is essential to plant self-government 863
McIntosh, James
How to fit shims in bearings—discussion *992
McVicker, George G.
How to fit shims in bearings.....*724
Meadowcroft, Joseph W.
Methods—who starts them..... 721
Miller, S. W.
Oxy-acetylene welding of copper.....*639
Monroe, Kenneth C.
Problems and functions of a safety engineer *197
Moore, H.
Local annealing *29
Stop collar for the counterbore.....*992
Moore, Norman
Self-releasing drift for small drill presses *951
Morris, A. M.
Repair-parts list 20
Mortimer, George
Pressure vs. gravity die-casting..... 713
Muirhead, Douglas P.
Limits of accuracy in repetition work—discussion 948
Myers, Arthur R.
Adjustable stop for the screw machine.*951
Improvised broach *370
Removing a battered toolpost screw—discussion *200
Selecting tap drills—discussion 832
Triangle altered for lettering.....*989
Myers, John Dashiell
Plight of industrial designs..... 704

N

Needham, W. Roland
Art of resigning—discussion 348
Let the draftsman see what happens—discussion 312

Page

NO AUTHOR

Abstracts....150, 195, 234, 317, 398, 584, 673, 703, 783.
Accounting systems: principles and problems of installation 404
Aircraft instruments 664
American year book 546
Analyzing foreign machinery markets statistically. Glossary of terms..... 50
Anniversary 686
Annual report of the board of regents of the Smithsonian Institution, 1924.... 162
Another metric bill 174
A.S.M.E. standards for metal fits.....*527
Atlas of traffic maps 50
Automobile industry borrows little.... 74
Automobile worm gearing 207
Automobiles and machine tools in France 233
Award for Reed propeller..... 344
Bearings and their lubrication..... 530
Better lighting increases accuracy..... 686
Biggest one-piece gear-tooth cutter.....*708
Blanking-die data *329
Bothering business 50
Brass flanges for composition pinions... 856
British wire-drawing and wire-working machinery 50
Bucking economic laws 74
Budgeting to the business cycle..... 207
Building a large boring mill in Canada.*589
Bureau of Standards 207
Changes in wheel-lathe design.....*740
Changing shop equipment 256
Characteristics and use of hacksaws....*763
Characteristics of Alcumite 489
Characteristics of Ascoloy 609
Characteristics of Bakelite and its compositions 413
Characteristics of collets in common use 512
Characteristics of Everdur metal No. 50 213
Characteristics of Genelite 647
Chasers for self-opening and adjustable dieheads 451
Cheap power 728
Civil aviation 318
Clamps for jigs and fixtures.....*371
Cleaning suggestions for the shop..... 49
Comparative strength of spot welds and rivets 8
Contents of the review pages.....80, 130
Co-operate with your legislators..... 918
Cost of accuracy 804
Cost of repair parts 332
Cost, price and service 996
Current developments in American business 811
Decimal equivalents 801
Deciphering the steel code 638
Decisions of courts affecting labor, 1923-1924 472
Dimensioning assembly drawings 366
Does copying develop an industry?..... 876
Effect of lubricant on taper press-fits..*365
Electrical trouble shooting on the motor car 442
Employers' liability 612
Engineers as executives 728
Experiment in psychology 996
Experimental work in the shop..... 960
Farmer's problem 492
Financing railroad shop equipment 416
Forecasting, planning and budgeting in business management 546
Foreign commerce handbook, 1926-1927. 546
Foreign or domestic markets..... 996
Foreman and his pay check..... 958
Foreman's duties 530
Foundry practice 664
French exchange professorship 294
Fresh air and ventilation..... 664
Gages used in the United States..... 833
Getting best average results 374
Getting in on time 787
Getting what you pay for 686
Good lighting decreases useless work... 918
Good lighting decreases waste..... 766
Growing use of the air mail..... 612
Health maintenance in industry 280
Heat-treatment for nickel steels....683, 993
Helping men earn more money by time-study 454
How railroad repair shops are equipped.*587
Human factor 162
Immigration—or machinery? 574
Important company representative 416
Improving Government purchasing 492
In the back shop *16
Income tax procedure, 1926 manual..... 280
Index of manufacturers 125, 142
Industrial fuels 202
Industrial furnaces 902
Industrial museum 280
Industrial safety 162
Industrial swearing 198
Inspection room in a truck plant..... *718
Inspection—too much or too little..... 416
Installment sales 836
Instructions for grinding twist drills.....*571
Interest of corporations in basic research 836
Internal standards 876
International convention for the protection of industrial property..... 625
Investigation of the fatigue of metals, series of 1925 318
Is the peak behind us?..... 530
Is there a limit to overhead?..... 374
Jobs that count in making counters.....*790
Just suppose.....74, 174, 216, 256, 454
Labor and scientific management..... 958
Lectures on engineering practice, 1924-1925 546
Locomotive—erratum 442, 546
Lower turnover to lower costs..... 996
Machine shop fires and insurance..... 464
Machinery on the farm 650
Magazine feeds *322, *407
Mainsprings of men 280
Maintenance of gas-rail cars on the New Haven railroad *623, *661
Making engraved rolls of steel and copper *57, *163
Management in the factory 50
Mass production equipment 162
Mechanical world year book, 1926..... 318
Merchants' Association of New York, year book, 1925 546
Methods of teaching industrial subjects 902
Metric question again 612
Metric system 546
Milling machines handle wide range of product *675
Modern cranes in and out of the shop, *320, *408
Modern plant for building planers.....*505
Monopolies 74
More interest in apprentice training.... 669
Museum of the peaceful arts..... 918
1925 inventory of machine tools in the class I railroad shops..... 699
Non-partisan tax bill 374
Old Army and Navy ideas still rule.... 650
On selling machinery 332
Operations in building winding machinery *14
Opportunities that lie ahead 574
Ouroboros, or the mechanical extension of mankind 318
Photographic shop records 454
Plight of industrial designs 728
Popular research narratives 404
Possible unification of American and British screw thread systems..... 196
Practical shop problems....32, 72, 214, 254, 292, 330, 372, 414, 452, 490, 528, 572, 610, 648, 684, 726, 764, 802, 834, 874, 916, 956. 994
Price and quality 728
Principal developments in shop equipment 79
Principles of metallurgy of ferrous metals 404
Problems of economic restoration developed by the world war 162
Proceedings of the thirteenth annual convention of the American Railway Tool Foremen's Association 472
Proceedings, Twenty-eighth annual meeting 442
Progress in methods of storing oil.....*910
Progress or die 650
Progress photographs 766
Properties of alloy steels..... 873
Railroad repair shop equipment 612
Railroads and union-management co-operation 294
Recommended practice for the carburizing and heat-treatment of camshafts.. 46
Records show steady increase in sales of closed cars 712
Reduction in prices through the elimination of waste 664
Rejuvenating a historic plant *981
Report of experiments to determine the relative power transmitting capacity of belts on vertical, angular and horizontal drives 472
Research projects of the A.S.M.E..... 605
S.A.E. proposes unification of wire gages 266
S.A.E. steels (chemical composition)... 291
Salesmen who know get orders..... 454
Scientific foundations of business administration 442
Selling old machines for scrap..... 294
Shall the tail wag the dog?..... 492
Shall the work or the machine tool be moved? *908
Shop transport and costs 766
Simple method of reducing inventory... 774
Simple specifications help all 530
Simplifying wire gages 256
Six-place tables 50
Sizes of standard milling cutters (simplified practice) 31, 71
Some Singer sewing-machine methods .*907
Speakers who talk overtime 374
Special fixtures for milling and boring *426
Spotting idle machines 504
Standard hose connections for welding equipment *253
Standardization and progress 174
Standardization of drawing room practice 279
Standardization of locomotive reamers *155
Standardization without ruts 958
Standards for German machine tools ...*638
Standby equipment 650
Statistical abstract of the United States, 1924 472
Steps in assembling a 36-ft. boring mill.*716
Steps in the making of inlaid plated silver *208
Tangible encouragement 686
Tapers in lathe spindles 585
Technical abstracts 33, 73, 173, 215, 255, 293, 331, 373, 415, 453, 491, 529, 573, 611, 649, 685, 727 765, 803, 835, 875, 917, 957. 995
Ten safety hints 422
Tentative standards for plow bolts 472
Tentative standards for stock taper keys *816
Text for advertisers 34
Thermal expansion of tungsten 442
To establish an American standard .. 45
Tolerances, allowances and gages for metal fits 442
To mediate railroad labor disputes 174
To the pole by airplane 804
Tool engineering-punches, dies and gages 162
Trade association as a credit builder ... 174
Trade associations' big job 34
Trade-mark profits and production ... 902
Trade schools under the Guild system 454
Trade standards 604
Transportation units in the Fiat works *590
Treatise on dimensioning 404
Two new oil-electric locomotives in operation *20
Two years to reorganize the Government 216
Types of commercial lock washers ...*915
Types of manufacturing gages *725
Über den einfluss des machanischen fahrwiderstandausgleichs auf die berechnung dern eisenkonstruktion von brückenkranen 472
Union scale of wages and hours of labor, May 15, 1924 546
Unnecessary accuracy 216
Using "machine sense" 516
V-block designs for jigs and fixtures ...*171
Various examples of arc-welded joints .*788
Vocational training for the sub-normal . 332
Volume 64 34
Wages 876
Weight of brass stock for screw machine parts 955
Welcome settlement 804
What do we know about bearings? ... 34
What is the average age of your machine equipment? 958
When is a machine obsolete? 332
Where quantity and quality go together 492
Where schools can help 256
Why American industry leads 574
Why some small shops succeed 836
Widening use of machinery 216
Wider use of milling machines in the railroad shop *469
Winning solutions of the third prize problem *473
Wörterbuch der modernen maschinenwerkstatt 902
Year book, 1926, American Institute of Electrical Engineers 664

O

Orcutt, H. L. F.
Characteristics and uses of ground gears 367

P

Parker, Arthur F.
Bluing steel parts—discussion 994
Payne, J. E.
Babbitting a large bearing 411
Pennock, G. A.
Division of labor in tool manufacture 599
Peters, Harold A.
Tool for finishing combustion chamber *646
Plaisted, E. R.
Babbitt successfully used for a stressed machine part 347
Pleis, Arthur C.
Effect of mass production on machine tool design 854
Porter, Jr., Alfred J.
Heat treatment of die-blocks..... 950

Q

Quharity, Glenn
Pipe dreams of a tramp machinist *516

R

Randol, R. C.
Collapsible tap altered to give higher production *170
Rastall, W. H.
Future of export trade in metal-working machinery *755
Reibel, Louis
Finishing roller *759
Valve-setting device *450
Rich, I. B.
Clamps that draw the work *871
Rattler for cleaning locomotive flues .*328
Rindge, Fred Hamilton
Industrial Americanization and the foreman 593
—Thrift—To the last man in industry... *65
Robins, S. A.
How would you do this job?—discussion *869
Roe, Joseph W.
Permanent machine tool exhibit 889
Rogers, D. A.
Adjustable spacing collars for milling cutters *252
Nicked hacksaw blades *30
Rolfe, Lester
Turnover jig for small connecting rods *762
Roper, Loring
Always more to come 347
Buy for production——Sell by the pound 394
Machine the emblem of progress 715
There's a romance in the making *984

S

Sandmann, William F.
Getting the most out of your machine tool dollar 792
Groove of standardization 744
Rotary milling fixture *608
Sassen, Bernard
Cam indexing motion *705
Schell, H. B.
Automatic recessing toolholder *843
Numbering screw-machine parts *251
Pressure-equalizing device *168
Strength of taper pins *914

Page

Schenck, Peirce D.
Alcumite—An aluminum bronze alloy .. *61
Scholl, Warren
Handy case *289
Reducing tube-piercing costs *952
Senior, Harry
Man in the shop and mathematics—discussion 432
Seen and heard—discussion 394
Seybold, Frederick
Mathematical analysis of the Geneva movement *793
Shafran, Philip F.
Using a hand reamer in a lathe—discussion 488
Sheldon, Ellsworth
Drawn shells reduce machining costs . *741
Maintenance of motive power on New England railways *39, *151, *203, *239 ..... *303
Silvester, Arthur
Nicked hacksaw blades—discussion ... 799
Simon, Henry
Converting a knurl holder into a turning tool *832
End-stamping tool for automatic screw machines *69
Skinner, C. E.
Development in industrial standardization during 1925 22
Snaith, W.
Steam hammer "comes back" 67
Stanley, Frank A.
Forge work in a railroad shop *5
Pacific Coast railroad-shop methods ... *971
Steele, H. S.
Angular turning on a milling machine—discussion 289
How to keep drawings clean *954
Using a hand reamer in a lathe—discussion 200, 682
Stern, B. J.
Boring in a lathe *170
Diction in catalogs 438
Making special chuck jaws from a plaster model *450
Stewart, Arthur L.
Design and manufacture of hypoid gears *857
Stewart, G. B.
Reason vs. threats 700
Stewart, R. W.
Planing a tapered hole *487
Strama, John
Multiple-operation press tool *251
Simple milling fixture for round work .. *872
Strong, A. J.
Reminiscences of an old timer 758
Stuart, G. B.
Characteristics of collets—discussion ... 624
Diction in catalogs—discussion 674
Sales vs. production 756
Wasting to save waste 642
Swenson, Lawrence F.
Comparison of drawing methods—discussion 970
Where schools can help—discussion ... 562

T

Tarr, Richard C.
Adjusting the drop light *800
Terry, F. P.
Code of ethics for buyers—discussion . 279
Those new superintendents—discussion . 602
Unethical use of manufacturers' drawings—discussion 436
Thorburn, Clyde D.
Why expect brains, if only brawn is paid for? 820
Thwing, L. L.
Amortization claims in income tax practice 468
Automobile industry and the machine-tool builder—discussion 12
National Museum of Engineering and Industry 64

U

Uhreg, John H.
Shrinking a cylinder on a brass lining—discussion 608

V

Van Keuren, H. L.
Lapping micrometers *871

W

Waldo, Frank
Cutting a pinion on a slotter *369
Hand knobs for jigs and fixtures *29
Warriner, D. A.
Drilling and tapping holes in line *525
Waters, D. Vaughn
Accuracy and production in gear hobbing *267
Webster, Wallace
How would you do this job?—discussion *913
Weigel, J. R.
Small diehead adapted to large turret lathe *28
West, Ben
Home-made holder for a threading tool *990
Westbrook, M. H.
Getting the most out of your machine tool dollar 261
Wheatcroft, J. A.
Self-centering test button *913
Wheeler, H. L.
Convenient dipping hook for the soda tank *914
Floor-stand for drill-press tools *68
White, H. K.
How would you do this job?—discussion *991
White, Rob
Multiple-operation press tool—discussion 708
White, Robert B.
Lining up work by sound 934
Wicks, Z. W.
Loss of air pressure—discussion 994
Widen, G.
Indexing fixture for a press *28
Wildhaber, Ernest
Design and manufacture of hypoid gears *857
Wilhelm, Frederick
Sensitive tapholder *990
Williams, C. G.
Advertisements and the product 792
Protecting the edge of cutting tools ... 186
Real service work is appreciated 368
Willis, R. B.
Catching the mistake 312
Man in the shop and mathematics—discussion *669
Returning tools to the storeroom—discussion 874
Wilmarth, P. H.
Portable cleaning tank *449
Wood, Joseph Kaye
Crankpin design for electric locomotives—discussion 316
Materials used in electrical machine design 17
Wright, Claude W.
Safety guards for crane trucks *369
Wright, D.
"Give references and state salary required" 384
Wright, D. C.
Cripple *319
Oil and repairs—discussion 437
Screw conveyor and its manufacture *931, *977
Super's plaint 156
Wright, Dayton
Fixture for grinding internal radii *211
Wright, Milton
Air-operated vise *327
Convenient location of a factory office *831
Device for shifting cone belts *759
"Hand" reaming by power *606
Home-made cam cutting machine *448
Improvised motor drive for drilling machine *68
Lathe adapted to turn radii *722
Multiple guide for the profiling machine *800
Repairing locomotive driving boxes..... *212
Special machines for turning balance wheels *644
Traffic post on a shop floor *911
Turning small balance wheels in an engine lathe *951
Wright, Ralph
Wanted—A time-saving steel rule—discussion 249

Y

Yeomans, I. F.
Turret tooling for transmission levers *976
Younger, John
Inspecting the policy of a manufacturing plant 476

Z

Zimmermann, W. F.
Dangerous alterations on pneumatic hammers—discussion 520